

MAR 21 1910

VOL. VII. NO. 2

\$1.00 A YEAR

MARCH, 1910

# SELLING ELECTRICITY

The Magazine of Electrical Progress

## Take a Shot at This One



**H**ERE'S a sign that will open the eyes of the sporting goods man, the gunsmith or the proprietor of a summer park shooting gallery. It is a clever, **moving** attraction—it's new—it's an **advertisement, like all Valentine signs.**

This **advertising** feature of our signs is the strongest selling argument you can use. Everybody advertises and everybody believes in advertising. You can sell **electric** advertising where you can't sell electric signs. Think that over and see if it isn't true.

This gun advertisement is one of the best ever turned out by the Valentine Company. The lights on the gun burn steadily; the bullet appears to fly from the gun to the target, and the target lights up, holds for a short time, goes out and repeats. The sketch shows the exact number of lamps required for each side for a sign 12 feet long; the lamps in the target and shot burn half of the time—the other lights burn all the time.

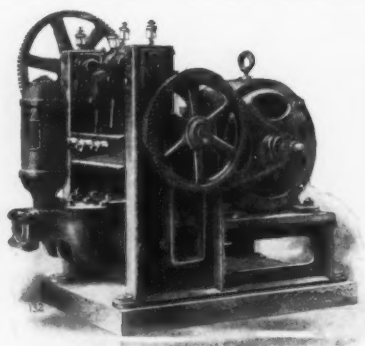
The sign may be from 12 feet to 16 feet over all, as desired, and shows on both sides. All the apparatus is made entirely of heavy galvanized iron according to the National Code rules. Wired complete, including flasher and motor, but without lamps, for \$150.00 net F. O. B. cars Atlantic City.

Signs like this on your circuits—living, moving, sales-making, **advertising** signs—mean more to you than larger signs of the ordinary sort. Because these signs sell others. Go out and sell this sign. Don't wait until the proposition gets cold.

**Valentine Electric Sign Company**

ATLANTIC CITY, N. J.

Copyright, 1910, by THE RAE COMPANY



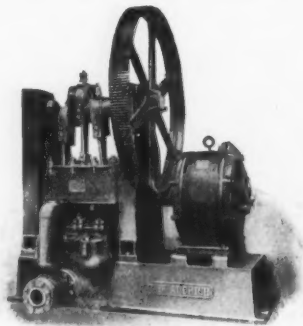
**250 H. P.**  
**FOR PUMPING PURPOSES**  
**IN A CITY OF 30,000**  
**A RECORD**

For two weeks' canvass is what  
 our pump man and the Central  
 Station expert in that town  
**HOOKED UP**

Shall we send him to help you?

**THE ALDRICH PUMP DEPARTMENT**  
**ALLENTOWN, PA.**

Designing and Selling for  
**THE ALLENTOWN ROLLING MILLS**  
**BIRDSBORO STEEL FOUNDRY & MACHINE CO.**



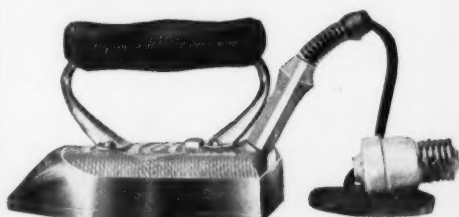
In writing to advertisers, mention "Selling Electricity"

## **Lest You Forget!**

Spring starts March 21st  
 Summer starts June 21st

**Then** is the time to sell to your  
 household customers "AMERICAN"  
 electric irons.

**Now** is the time to order them  
 from us.



"AMERICAN" SUPERIOR—6 lbs.



"AMERICAN" STEEL CLAD—7 lbs.

There are no Electric  
 Irons so good as

## **"AMERICAN"** **ELECTRIC IRONS**

Manufactured by

**American Electrical Heater Co.**  
**Detroit, U. S. A.**

*Oldest and Largest Exclusive Makers in the World*

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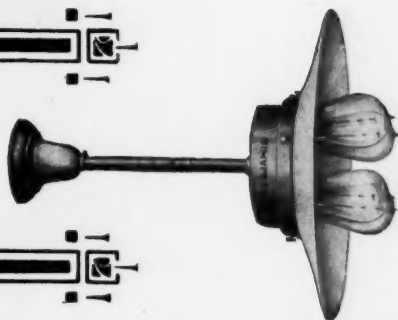




# LOOK! NEW FIXTURES!! NEW PRICES!!! BENJAMIN TUNGSTEN ARCS

Cat. No.	List Price	Cat. No.	List Price
T-52.—2-Light.....	\$7.40	T-54.—4-Light.....	\$8.00
T-53.—3-Light.....	7.70	T-55.—5-Light.....	8.30

Fixtures have cluster body, enameled steel reflector plate, 15-in. stem of  $\frac{3}{8}$ -in. iron pipe and  $\frac{3}{4}$ -in. brass casing, 18-in. opal reflector, 5-in. by 4-in. canopy, and crowfoot. 2-, 3- and 4-light fixtures will take 100-watt lamps; 5-light fixtures, 60-watt lamps.



Cat. No. T-54

THE MOST INEXPENSIVE FIXTURE COMPATIBLE WITH EFFECTIVE SERVICE

Write for our New Tungsten Bulletin No. 5

## Benjamin Electric Mfg. Co.

NEW YORK  
27 Thames St.

CHICAGO

507 Jackson Blvd.

SAN FRANCISCO

151 New Montgomery St.



## Buckeye Supremacy in Industrial Lighting

**I**NDUSTRIAL Lighting is a distinct branch of Illuminating Engineering, and a mastery of this important subject requires deep study, long experimentation and wide experience. The Buckeye Electric Company was the first incandescent lamp manufacturer to recognize the importance of this subject, the first to appropriate sufficient funds to master it, and the first to establish a Department of Industrial Lighting upon a practical basis and under the charge of men experienced in mill and factory conditions. Our experts will be glad to co-operate with central stations or others in solving industrial lighting problems. Their services are offered without charge.

### THE BUCKEYE ELECTRIC CO.

MAIN OFFICE AND WORKS:  
CLEVELAND, OHIO

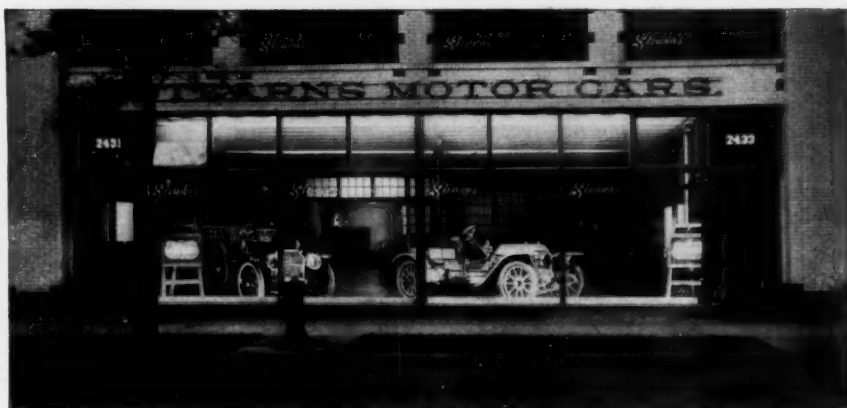
CHICAGO:  
23 East Lake Street

PITTSBURG:  
Fulton Building

DALLAS:  
220-221 Linz Building

In writing to advertisers, mention "Selling Electricity"

## Improve Your Customers' Window Lighting



**T**HERE is probably not one retail store in a hundred where the window has been utilized as successfully as in this case. And yet—good advertising is quite as important to them all. Yes,—and it is just as important to you, Mr. Central Station Man, that this window lighting be successful from an advertising standpoint.

Look at it from that angle a moment. Then walk around a bit this evening and jot down the windows that can be improved. If you are not sure just how—ask us.

### HOLOPHANE COMPANY

Sales Department

NEWARK, OHIO

New York

Chicago

San Francisco

Boston



## An A. & W. Sign

**Distinctive in Design  
Animated and Attractive**

### THIS SIGN

Installed by the Union Electric Company, Dubuque, Ia., 40 feet high by 12 feet wide, contains 900 lamps, operated by a flasher, giving flaming effect to torches and several combinations on border, crown and words.

**MR. CENTRAL STATION MAN,  
USE YOUR OWN POWDER,  
"ELECTRICITY FOR PUBLICITY"**

and use it in an A. & W. Electric Sign.

### MAIL TODAY

size of available sign space and wording; tomorrow you will get a finished design and estimate.

**The A. & W. Electric Sign Co.  
CLEVELAND, OHIO**

# SELLING ELECTRICITY

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# FRIENDS REPUTATION MONEY



What you *get* makes little  
real difference; it's what  
you *keep* that counts.

## SELLING ELECTRICITY

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Edited by FRANK B. RAE, Jr.

EARL E. WHITEHORNE, Managing Editor

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### *The Man Who Competes With Himself*

**P**REACHMENTS on salesmanship, when penned deliberately, are pretty apt to be trite and tame: only those written at white heat and on the spur of the moment have the real spark of life. The following few words are of the latter sort. They are part of a confidential letter by a well-known central station manager about a commercial man who had left his employ:—

"I have a very kindly feeling for this young man. He has a great deal of ability, but during the time he was with us I never was able to pound into him the truth that it is just as easy to get a fair price for your product as to sell it at the lowest value. **IN DIRECT COMPETITION WITH HIMSELF** he would make prices that in nearly every instance involved the company in a loss on the installation, when there was absolutely no necessity for it."

That phrase "**IN COMPETITION WITH HIMSELF**" should be blazoned on the wall of every new business department in the country—in every contractor's shop—even in every manager's office. It epitomizes in four words the underlying cause of three-quarters of the commercial failures. It tells why so few new business men make good and why so many managers give excuses instead of dividends to their stockholders.

Every business is entitled to a reasonable profit on every transaction. Every buyer expects to pay this profit. The close buyer will haggle, of course, and the needy seller will cut the margin as low as he can, but nobody whose business is worth going after wants or expects to get something for nothing, or even something for less than its true value.

The central station man "in competition with himself" is generally a victim of ignorance—if not that, then of fear. He does not know or realize the value of his company's service. He is not convinced that the price asked is a fair price. He has not analyzed generating and distributing and selling costs sufficiently to know that current which represents two cents at the station switchboard may be worth twenty at the customer's meter. He probably has the same exaggerated and baseless ideas of central station



profits as are held by the yellow press and the greater number of the public. In short, he doesn't know his business—unless, indeed, he is a victim of fear, afraid to stand up in the face of opposition and argue for his honest convictions. The cowardly salesman is practically hopeless: let's forget him.

This ignorance, though—ignorance of the basic principles, not alone of central station business, but of all business—is something too common for comfort. Out of it are born such errors as the free wiring offer, the giving away of heating appliances and the making of contracts below cost because the installations promise to be of advertising value. Out of this ignorance are also born the special rate, the employment of high efficiency lamps and scientific reflectors on the anti-wattage basis, and the fatal error of side-stepping publicity. Errors comparable to these are seldom or never made by successful mercantile establishments. For instance:—

The coal dealer does not give you a kitchen range in order that you may burn his coal;

The butcher does not supply you with a carving knife in order that you may cut his meat;

The tailor does not give you clothes in order that you may become his walking advertisement;

The street car conductor does not give a 20% concession to the man who argues that the fare is too high;

The grocer does not recommend a diet of gluten bread and the abolition of olives to reduce his bills;

The picture dealer does not deny the newspapers an opportunity to view and report his exhibitions.

Yet the central stations of the country, by and large, commit all of these errors of business judgment—at least they make errors as ridiculous, from a business standpoint.

And why? You will find many apparently sound excuses given. You will find plausible arguments advanced as to the necessity of making concessions, increasing expenses, reducing net earnings and dividends. But when you come to strip the arguments from the acts and get down to the naked and unlovely truth of the whole matter, you will find that the man who makes these mistakes is simply "in competition with himself."

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### *Educating the Public on Rates*

IT IS generally conceded that there is something radically wrong with the ordinary central station system of rates. Of course, this has been known for a long time—as we measure time in the electrical industry—but now it is becoming a matter of vital and pressing importance.

Two factors bring the matter to immediate focus:—public utilities commissions, on the one side, are ignorantly delving into rate questions with the

sole thought of reducing the cost to the public, not of service, but of kilowatts; on the other hand, the higher efficiency lamps are cutting into the profits of certain classes of installations which have heretofore supported the unprofitable small residence lighting load, while at the same time opening the way to large increases in the latter undesirable business.

So the central station faces the complex problem of a constantly reduced income per kilowatt, a constantly increasing cost of production and maintenance, a constantly growing list of small, short-hour customers who pay minimum bills and entail maximum expense, and a constant reduction of load upon those meters which record the largest percentage of profit. To solve this problem will probably require years of discussion and the agreement among central station men upon a uniform principle of rate-making. In the meantime—what? Are we to allow the public to hammer our rates downward?—allow utilities commissions to make and enforce rulings which leave the unprofitable business alone while lopping off the profits that make it possible for lighting companies to carry this loss?

These questions are well answered by Mr. W. F. Davidson of Port Huron, who recently sought a franchise in Bay City, for the Chippewa River Power Company, of which he is vice-president. Mr. Davidson applies the simple expedient of publicity to hold popular opinion at bay and to win it to a just attitude toward his company and its rates. He takes the people into his confidence, tells them exactly what the electric light company must contend with and makes it clear that the price per kilowatt must be sufficient to pay costs and a profit. Mr. Davidson's remarks are reproduced in full on page 97. They are both interesting and unusual, not that they advance any particularly new arguments, but because they are clear enough for the layman to understand and so apparently fair in their presentation that possible antagonism upon the part of the reader is at once overcome.

There should be more of this sort of publicity. The public is party to electric lighting rates and is entitled to know the whys and wherefores. It is not enough to explain the rate: the causes and effects of the rate in force should be—**MUST** be—explained and their fairness established. Nor is it enough to simply talk rates—that is, price per kilowatt. The effect of high efficiency lamps is just as logically a part of the rate system as the efficiency of your engine is a factor in your production costs, and should be plainly set forth.

The opportunities for popular education in matters of this sort are everywhere. Personal talks with influential and public spirited customers, lectures before clubs and societies, newspaper interviews and reports to stockholders, all offer an easy means to the end. The public is vitally interested. It seeks information and enlightenment and the fact that its interest has, in the past, been satisfied or led astray by unfair newspaper explanations written either in ignorance or malice is the strongest reason why the right kind of publicity should be undertaken.

## *Studying the Calendar*

THE clock and the calendar differ in this essential feature: that, whereas it is a sign of laziness to watch the one, it is the mark of foresight and industry to study the other.

Calendars, to our poor way of thinking, have never received the credit and honor due them. They are not mere figure-sheets made up of endless and irregular repetitions of the numerals one to thirty-one, nor are they simple devices to assist the absent-minded to remember rent day and lodge night. On the contrary, they are the cash registers of time—the very basis and foundation of business system.

The intelligent and continuous use of the calendar cannot fail to develop foresight and result in profit. To point the moral: Beginning March fifteenth, over one-half the twenty-four hours, on the average, will be daylight hours, and thereafter the ratio of light to darkness constantly increases until in June the average daylight is 15 hours, 2 minutes, or almost two-thirds.

This interesting fact, to the near-sighted, means simply that the station load decreases in embarrassing fashion while the sun works longer hours; to the man of shrewd perception it spells opportunity. For when the light bills are getting lower is the season for slipping onto circuit all those trifling electrical conveniences which every household needs, but which few can be persuaded to adopt during the season of little daylight and high bills.

By common consent, business in almost all lines—including the central station—is permitted to “taper off” in the spring and to stagnate through the summer. At the first breath of fall, we get busy again with renewed vigor, but with what result? The lighting bills rise automatically after June because of the lessened daylight and campaigns designed to place small motors and heating appliances must be carried on against a natural handicap. While the energy we put into the work results almost always in a reasonable success, the season is actually against us.

But the commercial man who uses the early spring as the time for his appliance campaign is swimming with the tide. The bills are going down so that the additional current consumed by the appliance is not felt by the customer. Further, the season itself is propitious. The motor driven cleaner is timely between now and May 1st. The electric flatiron and residence fan sell easiest during the first hot days. Electric cooking begins to sound practical to the tired housewife during midsummer. Fly-time may not be favored to many industries, but it offers opportunities to the man who sells electricity.

These facts are revealed by the calendar. Of course the same calendar may reveal the approach of the midsummer vacation, but that is another story. Watching the calendar for one's vacation is worse than watching the clock for quitting time.

## *Power Sales Methods in Providence, R. I.*

A Study of the Successful System of the Narragansett Electric Lighting Company

BY EARL E. WHITEHORNE

**A** GOOD many central station men are apparently inclined to feel that it is out of the question for them to attempt to go into the finer points of power sales engineering as practiced by a few of the bigger companies. They look upon it with admiration, but as beyond the grasp of a small sales organization and a limited purse, and, of course, in part they are right.

The staff, methods and equipment engaged in the development of electric power business in Chicago, for instance, entails the expenditure of a great deal of money—but, on the other hand, the city of Chicago presents a field for endeavor correspondingly large and fruitful. But, nevertheless, the point of view, the manner of approaching the prospect and the method of preparing and presenting the report may well be adopted in spirit and modified to suit the conditions in any city. It is largely a matter of mental attitude, a willingness to prove the case, and the ability to investigate and report exact conditions in detail and draw the deadly parallel.

Providence, Rhode Island, is a city just under 200,000 in population, yet the Narragansett Electric Lighting Company has developed a system for handling power business second to none in its thoroughness and efficiency, and though their organization is, of course, still too ambitious for the

small city, nevertheless a study of their methods should have suggestive value to every power salesman.

It is the ideas behind the system that have made it successful and these same methods can be utilized in part and in principle wherever there is potential power business awaiting conversion. For this reason, a description of the Narragansett sales organization and their way of selling power should be interesting.

The Sales Department under the guidance of Mr. E. R. Davenport, Sales Agent, is divided into four bureaus; office, special appliance, lighting and power, each in charge of a chief, who is directly responsible to the Sales Agent. The office force comprises two stenographers, and five clerks; the special appliance bureau, six men; the lighting bureau, five men, and the power bureau, six men, all exclusive of the bureau chiefs. In the power bureau there are three competent engineers and four assistants, all technical graduates but one, and capable as a body of handling the most complex power problems.

In describing the working of this bureau, Mr. Davenport says: "We formerly divided the territory into districts in charge of salesmen, but we found after a time that the men had secured practically all the power business that could be obtained



through salesmanship alone. We had arrived at a point where power engineering coupled, of course, with salesmanship, was necessary for the further development of power business. The engineers are now detailed by the head of the bureau to each prospect and the matter is in the hands of that one man with such help, of course, as is necessary, until the installation is made. Some of our men have had special experience in certain lines of work, and this knowledge is naturally utilized to the fullest extent.

"So today we advertise the services of our engineers without charge and when a prospect who resists the ordinary sales effort is encountered, we offer to make a study of his plant, analyze his power conditions and submit a detailed report with our proposition. We feature this free engineering very strongly and stake our reputation on the accuracy and fairness of every report. To accentuate this, we always express a willingness to have the proposition referred to any consulting engineer in the city.

"In each case, we make a careful study of power conditions in relation to a possible improvement in efficiency and output, and our report covers every detail specifically. As a result, we have found that oftentimes it is only necessary to submit to the prospect the engineering data, drawings, and blue prints prepared on other installations, and these are accepted as ample evidence of our ability to make good. Several contracts for new buildings have been secured

in this way without further formality.

"After an installation is in, we test out every motor under normal running conditions, that is, with all the load that the customer expects to put on. If we find that any motor is larger than necessary, we replace it with a smaller one; and if it should be too small we replace it with a larger one, and charge the customer according to size needed. If we put in motors and they burn out due to overload, it does not cost the customer a cent. We replace them at our own expense.

"The first month's bill on every installation is referred to the power bureau for O. K., and is never sent out to the customer until it has been compared with our estimate. If we find that there is a discrepancy between the bill and the estimated cost as submitted in our proposition, the bill is held up and an immediate investigation is made by the engineer who developed the installation. If he is busy on new work, it is simply dropped until the matter is straightened out, for it is an inflexible rule of the department that the needs of present consumers take precedence over all prospective or impending business. We not only approve the first month's bills on new installations, but the Accounting Department is often requested to submit them to us until further notice, for we sometimes find that customers are installing new machinery or perhaps reducing their load, and it is well for us to forestall a possible misunderstanding by investigating and making clear why the bill has been effected."

So much for the process of business development. The form of the Narragansett report itself is worth study and perhaps the best way to describe its scope and arrangement would be to take a specific case and outline a proposition submitted to a large manufacturer of jewelry and silverware, located in the city of Providence. This report is type-written on loose sheets of white bond paper, size 8½ in. x 11 in., punched

Page 4. Fly leaf announcing section "Description of Present System of Motive Power, Heating and Lighting."

Page 5. Description.

Present Power.

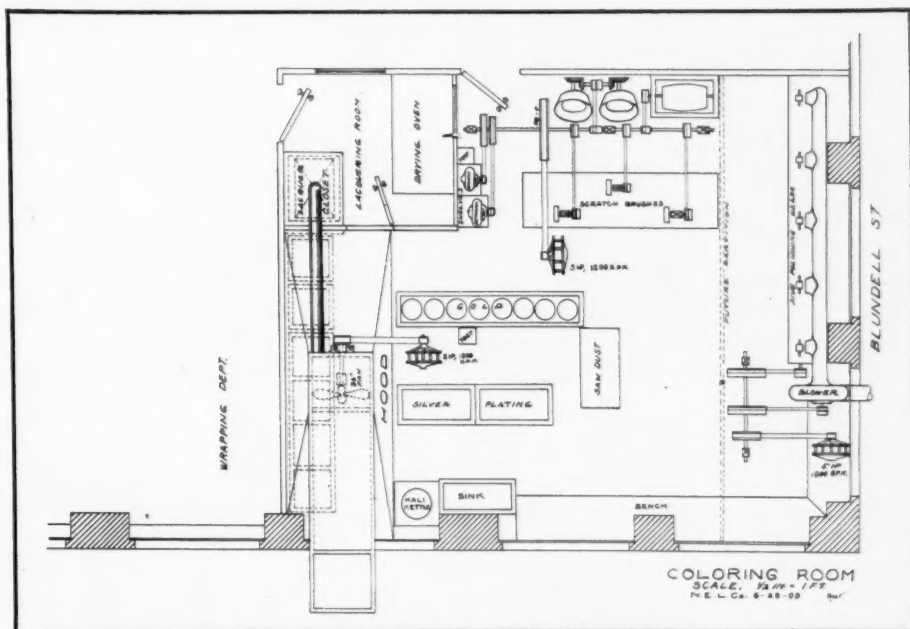
Coal: Soft coal is drawn in by wagon loads daily, no reserve being kept on hand.

Water: Water for boiler and drinking purposes is purchased by meter, etc. Other water pumped from artesian well.

Ashes: Wagon load of ashes is removed daily.

Boilers: Description.

Use of Steam: Description of engine, "one of the oldest in Providence," etc.



Reproduction of floor plan submitted with Power Report

three times and bound into a paper-cloth cover, properly inscribed. The pages are numbered with a numeral stamp, in red ink, 1 to 32—and are as follows:—

Page 1. Index.

Page 2. General Statement covering location and character of buildings and industries affected, tenants, and object of test.

Page 3. Blue print (blue on white) map showing location of buildings and bounding streets.

Page 6. Electric light and power for over-time running purchased from Narragansett Company.

Page 7. A review of former weekly engine tests to show maximum, minimum and average loads for five years previous. Comment.

Page 8. Blue print showing curve of average load for 1905.

Page 9. Same for 1906.

Page 10. " " 1907.

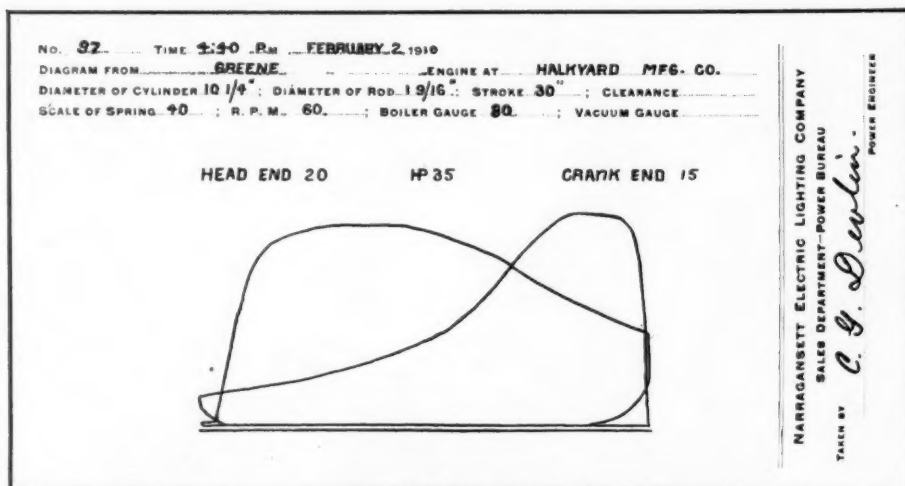
Page 11. " " 1908.

Page 12. " " 1909.

Page 13. Blue print curve of load averages 1905–1909 inclusive.

Page 14. A review of engine tests made by

- Narragansett Company at periods of 10 minutes, for two working days. Comment.
- Page 15. Blue print curve of average load first day, A. M.
- Page 16. Same, first day, P. M.
- Page 17. " second day, A. M.
- Page 18. " " P. M.
- Page 19. Statement of tests on friction load. Statement of test on three electric motors already installed.
- Page 20. Blue print of three indicator cards.
- Page 21. Fly leaf announcing section "Cost of Present System of Motive Power, Heating and Lighting."
- Page 22. Descriptive.
- Interest. } Based on valuation by  
Depreciation. } Manufacturers' Ap-  
Comment. } praisal Co.
- Page 28. Continuation of Estimate.
- Page 29. Fly leaf announcing section "Cost of Electric Motor Drive and Lighting."
- Page 30. Descriptive.
- Motors.
- Wiring.
- Millwright Work.
- Labor.
- Estimated Power Bill.
- Electric Power Profit through sale of power to tenants at less-quantity rate.
- Estimated Lighting Bill.
- Page 31. Heating Cost.
- Water Cost.
- Summary of Future Costs.
- Page 32. A comparison between the two systems, considering cost, overtime-running, reliability of service, value



Reproduction of Engine Test Report

- Page 23. Repairs and Renewals.
- Taxes.
- Insurance.
- Coal.
- Water.
- Labor.—Comment.
- Page 24. Sundries: Ash removal, etc.
- Profit.—Value of equal investment applied elsewhere.
- Summary of steam cost.
- Cost per horse-power per year.
- Page 25. Fly leaf announcing section "Description of Electric Motor Drive."
- Page 26. Descriptive.
- General arrangement.
- Grouping of Load.
- Overtime and Repairs.
- Motor Load—computed on basis of 10-minute engine tests.
- Page 27. Estimate on Proposed Motor Installation, stating position, size and daily hph. of motors.

of space reclaimed, and convenience.

This is followed by a series of blue prints of floor plans indicating location of proposed motors, the grouping of machines, and arrangement of transmission.

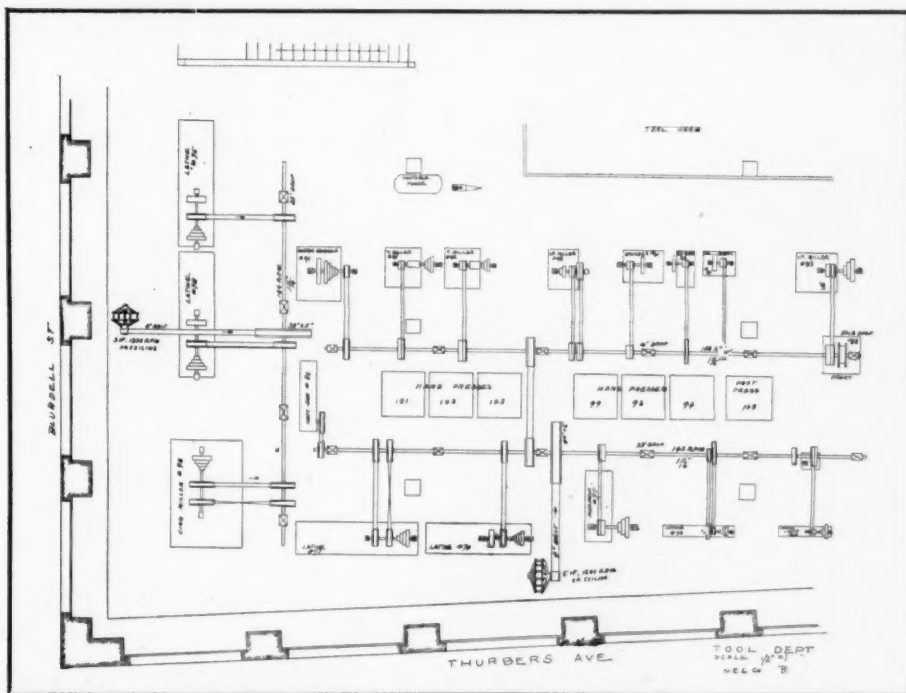
As to the results of this system, Mr. Davenport says: "At present we have power prospects totalling installations of over 3000 horse-power, and we have already over 13,000 horse-power connected load. In the past year we secured power business to the extent of 2,997 hp. During the same period there were disconnections amounting to 966 hp., leav-



ing a net increase for the year of 2,031 hp., or a gain of over 18%. We sold about 1,000 hp. in motors and turned over the sale of about 300 hp. to the local trade, in order for them to make a profit, for the sake of co-operation. Five steam plants were discontinued, a total connected load of over 800 hp., and we shut down one gas engine plant.

ers, and the like. We find that there are more 5-hp. motors connected on the system than any other size. We have made strenuous efforts to locate all gas, gasoline and oil engines, and only ten such remain. We are also proud of the fact that we secured every new factory in this territory last year.

"We sell motors on easy terms and



Reproduction of floor plan submitted with Power Report

"We secured three refrigerating plants, totalling 97½ hp. in motors, and sold 107 small motors of 1 hp. and less, but not including ½-hp. motors. These sales are only those that were made direct by the company and do not include many articles sold by manufacturing agents through our co-operation, such as meat choppers, coffee grind-

give a man twelve months to pay in if necessary, for we have no fixed terms, but simply ask the customer how much he can pay. If we sell a motor at regular retail price, we always try to get 10% down and as we have a lease on the motor, we figure that we are not taking any chances, for if the man does not pay we can utilize it somewhere else. We do not

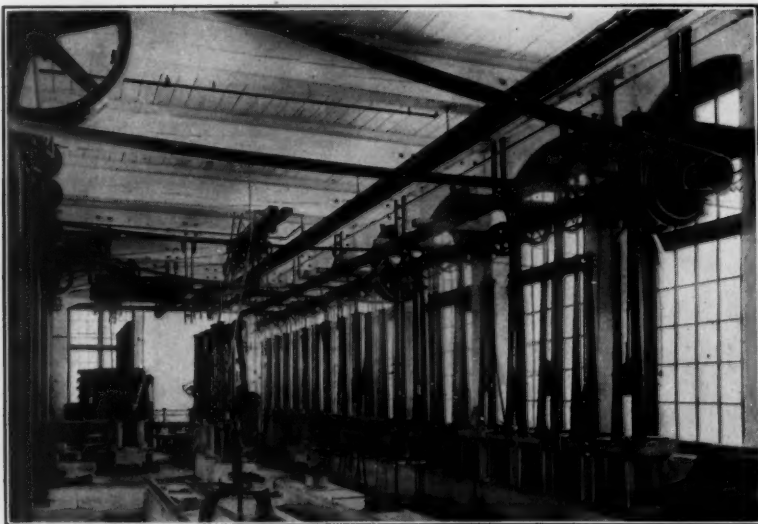
rent motors in any case, and carry no second-hand stock. We also refrain from doing any wiring, even for ourselves, and our relations with local contractors are extremely cordial.

"We carry a very large stock of motors of all sizes amounting on January 1st to over \$24,000, with a carload more en route, and have come to a point where our stockroom facilities are overtaxed. We are going to try and relieve this congestion and at the same time secure a little advertising by placing this excess stock on display in the windows of some of the contractors. We have made them a proposition to provide them with a consignment stock of motors ranging in sizes of 1, 2, 3, 5, 7½, 10, 15 and 20-hp., which are prominently displayed. The only condition we stipulate is that these motors must all be sold on Narragansett service, and that we be noti-

fied of each sale when the motor will be replaced.

"Each contractor's stock amounts to about \$1,000.00 in motors and each man is an exclusive agent for some one type of machine. That is, we give one man a line of Emerson small motors and he displays a sign in his window—'Agent for Emerson Alternating Current Motors, for use on the service of the Narragansett Lighting Company.' Another is stocked with Wagner single-phase motors, another with General Electric three-phase machines or Robbins & Meyer's small motors and so on, and in each case the contractor is featured as the progressive agent, to our mutual advantage.

"We believe that this will result in a large increase in motor sales, especially the small sizes, and at the same time both relieve our stockroom and promote harmony."



View of Trip Hammer Room in Jewelry Factory after Installation was made, 50 hp. motor mounted on special framework

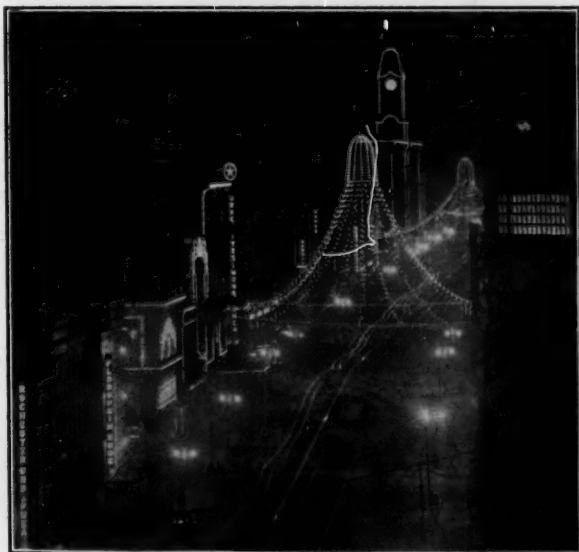
## *A New Idea in Carnival Illumination*

By WM. S. WALLACE, SIGN SALESMAN

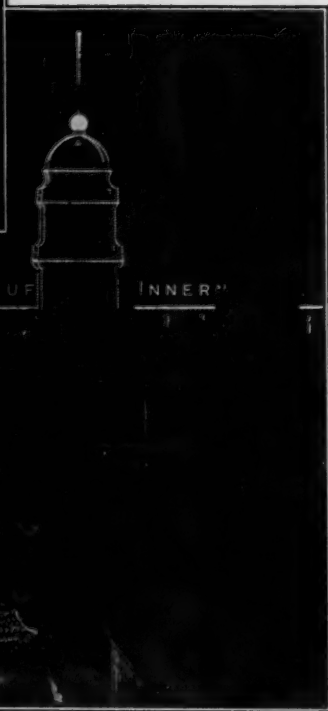
ROCHESTER RAILWAY AND LIGHT COMPANY, ROCHESTER, N. Y.

**T**HE recent spectacular street illumination in Rochester, in honor of the Second Annual Industrial Exposition of the Rochester Chamber of Commerce, is a good illustration of what may be accomplished through popular subscription, if the central station will but

lead and execute the movement. The accompanying illustrations show two views on Main street looking east and west from Grove street and give a fair conception of the magnitude and originality of the illumination. As is apparent, we departed from the usual methods of carnival



Views in Rochester, N. Y.,  
During the Industrial Ex-  
position



Spectacular Carnival  
Illumination Erected  
by Popular Subscrip-  
tion

street illumination and in place of arches employed a series of canopies.

There were seven canopies all told, in three sizes: i. e., four extending 60 feet; two 80 feet, and one 100 feet above the street level. These are the extreme heights, and the bases in all cases were 25 feet above the pavement. This variance in height enabled us to install them at a minimum cost by conforming to the heights of the buildings, though in some cases it was necessary to place framework on the top of the roof to carry the suspension messenger. These messengers were  $2\frac{3}{8}$ " seven-strand galvanized steel guy wires, and were sufficiently anchored to carry the strain, using the safety factor of about four.

Six of these canopies were installed on Main street, east and west, and one on State street corner of Church. The 100-foot canopy was in front of the Chamber of Commerce building, one 80-foot canopy was at the corner of Clinton avenue and Main street, which is the main thoroughfare to Convention Hall, and there was one 80-foot canopy at the Four Corners, which is considered the centre of the city.

As you will see by the photographs these canopies were made with a ball at the top of each, which was 28 inches in diameter, without lamps, they being the regular 16-cp. ruby; the bell-shaped framework, which was round at the bottom, had twelve ribs with 8-cp. lamps, strung at 12-inch spacings. The size of this bell was 12 feet in diameter and 15 feet high for the 80 and 100-foot canopies, and 8 feet in diameter

and 10 feet high for the 60-foot canopies. There were 24 stringers on each, mounting 4 and 8 cp. lamps at one-foot spacings, and the entire base was outlined with 8-cp. lamps on the one-foot spacing. There were about 1800 lamps in the 100-foot canopy, 1500 in each of the two 80-foot canopies, and 1200 in each of the 60-foot canopies.

In addition to this the florists of the city made a floral colonade from Clinton avenue south and Main street to Convention Hall, using our poles. The poles were painted white for them, and on each one they erected a diamond-shaped lattice work about 6 feet high. Streamers of laurel were run from the top of each pole to each of the four corners of this lattice work, and suspended from an iron cross arm at the top of each pole were four large baskets of flowers kept fresh daily.

They also strung laurel from pole to pole the entire length of the street and we festooned lamps over this same route and parallel on each side, lamps being placed at one-foot intervals with feeders taken from underground lines and tapped in where necessary, six taps being made. The distance covered was about 1800 feet, or in other words we used in the neighborhood of 3600 4-cp. lamps in this scheme.

We also outlined Washington Park, which is immediately in front of the Exposition Hall. This park is oblong in shape and in the centre is the Soldiers' and Sailors' monument. We placed a row of lights all around the park and dropped lights from the top of the monument to each of

the four corners. These lamps were placed at one-foot intervals, and we used about 2500 4-cp. lamps.

In addition to this the company had a large exhibit in the hall, displaying electric motors, electric hoists and an electric refrigerating plant in full operation, together with various gas and electric appliances. We also loaned all of the motors used at the exhibition for moving attractions, asking only that we be allowed to place a small sign, 8x10 inches, stating that the motor had been loaned by the Rochester Railway & Light Company.

We installed about 25 motors varying in sizes from  $\frac{1}{4}$ -hp. up to 15-hp. We also loaned all the lamps necessary both for interior and exterior illumination, no matter what size or kind. In addition to this

the company donated all the current used for the decorative street lighting and the interior of hall for both power and lighting purposes.

The seven canopies were paid for by popular subscription, at a cost in the neighborhood of \$6,000. We figure that our contribution to make this exposition a success—which it certainly was from every standpoint—was in the neighborhood of \$8,000 actual cost, but we also consider it one of the best pieces of advertising we ever did, and well worth the price.

The exposition was popular and the attendance was very large. This gave our share in the enterprise much publicity; also the popular participation brought us in very close personal touch with the local merchants and business men.

## A Dollar Idea

The Dayton Lighting Company  
Dayton, Ohio



**I**N Dayton, as is the case in many Ohio towns, the farmers drive into the city on Tuesdays, Thursdays and Saturdays, and line up their wagons along the curb on the market streets. The housekeepers all go to market with their baskets on their arms and purchase their supplies direct from the farmers.

The Dayton Lighting Company sends out a boy on market days to distribute circulars quietly among the shoppers, by dropping them into their market baskets as they pass to and fro. This insures a wide circulation, and the advertising reaches the woman of the house direct and receives more attention than if left on the front porch or even mailed.



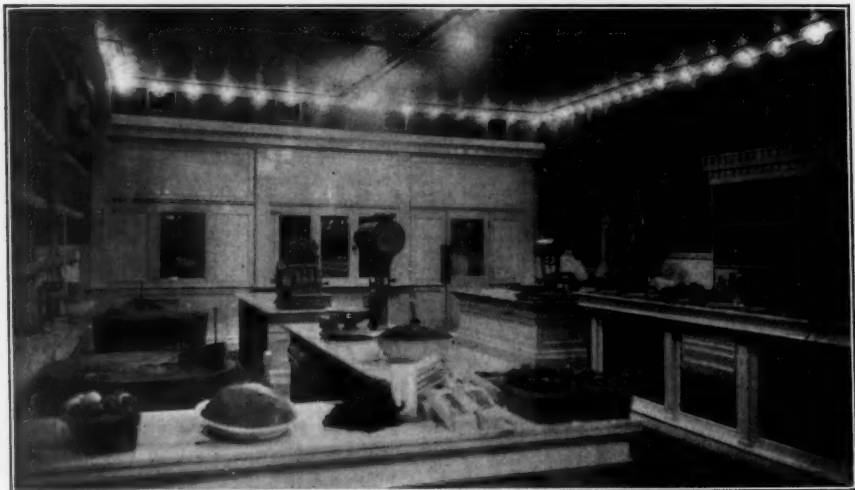
## *A Meat Market Installation*

R. E. FLOWER, NEW BUSINESS DEPARTMENT  
MOBILE ELECTRIC CO., MOBILE, ALA.

**T**HIS photograph of L. L. Noble's Parlor Meat Market, in Mobile, Alabama, shows what may be accomplished in the lighting of a meat market and delicatessen store.

The general illumination is pro-

per month, our company making the complete installation and keeping up renewals during the period of the contract, which is for two years. These lamps burn from dusk until midnight; the larger units are on the meter.



A Model Meat Market Installation in Mobile, Ala.

duced by 5 60-watt tungsten lamps in Holophane satin finish reflectors, while the border lighting is made up of 55 4-cp. series tungstens in special Holophane star reflectors, producing a very pretty morning glory effect. This border lighting is operated on a flat rate of 18c per lamp

Meat markets as a rule are poorly and unattractively lighted and this bright, clean illumination is demonstrating its value as a business producer. Cleanliness is the chiefest virtue in the butcher shop and efficient illumination makes it doubly apparent and inviting.

## *A St. Louis Ad Series*

**T**HE Union Electric Light and Power Company has recently published a series of advertisements in the local papers which commend themselves as straightforward confidential talks with the public. The style is unusual and sufficiently suggestive to catch the eye, and they have received a great deal of favorable comment.

There were six ads in the series with the following titles:—

1. Electricity in Packages.
2. Selling Service.
3. Why We Use the Streets.
4. Forced Investments.
5. Co-operation.
6. Complaints.

Each of the series was typed and illustrated as in the reproduction of Number 6, shown on page 87.

The text of the others is as follows:—

### **Electricity in Packages**

If it were practicable for a housewife to buy a package of electricity, we would need no city franchise to deliver our product.

We would not have to make a large investment in street mains, service wire, and meters, nor would we have to employ a force to inspect and read the meters.

Under these conditions we could sell Electricity at a much lower price than we now sell Electric Service.

Were it possible to handle electricity in the way that groceries and coal are handled, we could install an electric automobile express larger than the largest trucking concern in this city, for a ridiculous fraction

of the cost of our distributing system.

But forced to accept certain things as they are, we have to invest more money in our electricity distributing equipment than for our generating apparatus.

### **Selling Service**

We sell more than Electricity. We sell electricity plus delivery and the two combined are covered in the term "electric service."

This service differs very much from the delivery department of a mercantile house or dairy. It is constant every one of the twenty-four hours and 365 days in the year. It is at your command instantly for the case of sudden sickness in the early hours of the morning as easily as it is for the operation of household appliances and motors for supplying power to factories.

It is a service that must be prepared at any and all times to be sufficient to the greatest simultaneous demand. Everyone appreciates the fact that many more electric lamps are in operation from 5 to 8 o'clock in the evening than during any other period of the day. It is also apparent that the darker and shorter the day, the heavier will be the consumption of electricity.

Our generating plant must be large enough to care for the maximum demand of the shortest and darkest day in the year and also to provide reserve at such time for possible accident or emergency at the plant to insure continuity of service. This means that during most of the time throughout the year three-fourths of our plant stands idle.

### **Why We Use the Streets**

There is no way of transmitting Electricity for the ordinary illuminating, power and heating SERVICE



of commerce to places where it is used except through wires and cables.

Electric service is needed in homes, stores, offices, churches, factories, on the streets and in many other places.

The delivery of electric service necessitates the stringing of wires and cables through the entire city and occupying a small amount of space either under or over practically every street and many alleys.

There is only one alternative to the use of the public highways for distributing electric service; namely, the purchase or lease of private right of way. Such purchases or leaseholds would double, triple, and even quadruple the cost of the distributing system.

The cost of interest on investment and taxes of private rights of way would have to be included in the cost of service.

The people own the streets to use them. We use the streets in order to sell electric service at a much lower price than we would be forced to charge if our wires and cables were laid or strung on private rights of way.

#### Forced Investments

The manager of an electricity generating plant has no better means of seeing into the future than any other citizen. At the same time he is compelled in building and extending his property to make ample provisions for the future as well as for the present.

The manufacturing capacity of an electricity generating plant can always be enlarged by ADDITIONS, but unless the distributing system is laid out with liberal estimates for the future growth of the city, it may be necessary to RECONSTRUCT it long before it is worn out.

Such reconstruction adds excessively to the capitalization of the

property and the amount which must be earned to pay interest on the investment.

Therefore, every properly constructed electric service property for many years contains a distributing capacity much greater than current demands call for. This at first thought seems expensive, but in the long run it is in conformity with the best public policy.

IF AN ORDINARY MANUFACTURING ESTABLISHMENT receives orders in excess of its capacity because of specially prosperous conditions it may refuse the business it thinks to be of a temporary nature and will not warrant the expense of enlarging the plant.

AN ELECTRIC SERVICE COMPANY must meet the demands for its service whenever they arise and must make the necessary investment for extensions, additional generating machinery, etc., regardless of whether it considers the demands temporary or permanent. It has no choice whatever in deciding questions of this kind.

AN ORDINARY MANUFACTURING PLANT in dull times can turn out and store products for sale in good times, or may shut down altogether. An electric company cannot possibly operate on this basis and must maintain an efficient service always.

#### Co-operation

We think we are justified in asking the co-operation of the public to the extent of holding toward us a friendly spirit in considering our problems and dealing with personal and municipal questions which affect us.

The co-operation we desire is not the kind that would perform our work for us or lift our responsibilities from our shoulders. Rather it is the same appreciation and encouragement which is accorded any worthy commercial enterprise whose


labor and ambitions help to make the city great.

The city can not get along without utilities, nor can the utilities exist without the city. They are mutually dependent. An electric company that does not do its utmost

towards developing its city is working against its own best interests; likewise, a community which fails to co-operate with an EFFICIENT public service company sacrifices its own welfare.


On this point the Railroad Com-

### COMPLAINTS.



It used to be good form in the utility business to ignore the word "complaint." The word had an unpleasant sound to managerial ears. "Information desk," "Adjustment bureau," or "Department of claims," were among the terms favored, and every effort was made to minimize the fact that the company ever received such a thing as a protest from a patron.

Times change and so do customers. We do not like the word complaint any better than you do, but we are frank to admit that in a business as large as ours some mistakes will happen and some imperfections occur. We know that you realize this and will consider the **MANNER** in which we rectify errors, **RATHER THAN THE ERROR ITSELF.**



We guard against defects and strive to prevent them to the best of our ability. When things go wrong with the electric service, we prefer to have you tell us immediately and give us a chance to straighten them out instead of cherishing a grudge against us and telling your neighbors about it.


An overcharge or a delayed connection may be due to no conscious fault of ours, but the spirit in which we correct the mistake is the criterion by which you should judge our professed determination to render good service.

Our employees are instructed to be as polite and willing to repair grievances as the management itself, and we believe as a body, that they are. If, however, one makes a slip and temporarily forgets our duties to the public, you can not possibly regret it any more than we do.

**Union Electric Light and Power Co.**

General Offices

Tenth and St. Charles



mission of Wisconsin, an absolutely disinterested body, has said: "The relations between the cities and the utilities operating therein should be harmonious. There must be co-operation rather than agitation. . . . No one, it would seem, has anything to gain by the financial failure of public service corporations which are conducted and operated under ordinary or normal conditions.

"Losses to such plants are, in the end, likely to result in both public and private injuries. It usually means poorer or depreciated service, which of itself is a very important item. Even if it should enable cities to acquire title to their utility plants at comparatively low cost, such acquisition is not likely to prove a popular one in the long run."

## A Dollar Idea

By W. B. Johnson



I RECENTLY employed a very effective argument to secure an installation of long-hour window lighting. I quoted Tom Murray of Chicago, a well-known, progressive and aggressive merchant, who is a firm believer in well lighted window displays, as saying that he did not believe in long-hour window lighting until he took the pains to note the number of people that would stop to look at a well lighted window display.

Between seven and eight, he said, the people were in a hurry going to some place of entertainment and did not have time to stop and admire window displays. Between eight and nine, however, they seemed to have a little more time and some would stop, but between nine and ten they were returning from their evening's enjoyment and had plenty of time.

He claimed that for every person who stopped to look at his display window between seven and eight, there were five who stopped between eight and nine, and that between nine and ten there were twelve who stopped for every one between seven and eight. In other words there were five times as many people who stopped between eight and nine as there were between seven and eight and there were twelve times as many people who stopped between nine and ten as there were between seven and eight.

He gave as his opinion, that if he was to burn his window lights only one hour each night, it would be from nine to ten p. m.

## *"Boosting Booze and the Bible"*

Electric Advertising that Does Business for Both Church and Saloon

**H**ERE is a new church sign story and the latest evidence of the versatility of electric advertising.

The minister of a church in a western city was exceedingly anxious to overcome the disadvantage of a poor location, as his church was situated on a side street about a

not consent to the erection of the sign on their buildings. A special permit from the City Council was finally secured, however, giving authority to erect the sign on poles along the curb line, which was done, though it was necessary to mount the entire flasher, motor, switch, meter and cut-out in an iron box on one



The Church-Saloon Sign

Note on the left pole, the box containing switch, cut out, meter, flasher and motor

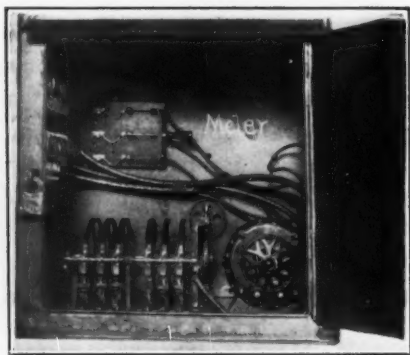
block away from the main thoroughfare. He decided that the only recourse would be an electric sign erected on the corner facing up and down the busy street, and directing the public to the Tabernacle Church, "One Block South."

The matter was laid before the local central station and the order given, but a serious obstacle was encountered for the property owners on the corner in question would

of the poles as shown in the accompanying illustration. The picture of the box itself is an example of what may be done by the sign man under the press of necessity.

A peculiar feature of this installation was the fact that the sign was placed beside a saloon and in such a position that all view of the saloon-keeper's sign is cut off from one direction. This was not done maliciously as a blow to the "Demon

Rum," but because this happened to be the logical location for the sign, though it was feared that there



Interior view of the box erected on the pole. The meter was not in place when this photograph was taken

would be a determined resistance from the saloon.

No objection was made, however, and one day a representative of the

lighting company dropped in to have a chat with the proprietor and find out how he felt about it.

"Don't you find that the church sign hurts your business?" he asked.

"Not at all," replied the liquor man. "You see it's like this. A man comes down the street, reads that sign 'Church,' looks at the building and sees a saloon. Naturally he thinks it's a joke and he goes into the saloon, and generally buys a drink. If he looks to me like he needed some salvation I push him along to the church at the corner, so you see I am boosting the preacher's game, while he's boosting mine."

"Taint often you find the same sign boosting both booze and the Bible."

## *Selling Juice "by the Piano"*

**M**R. JOSEPH E. BECKER, General Sales Agent of the United Electric Light & Power Co., New York City, tells an amusing rate story, an incident which occurred when he was in charge of commercial matters in Brooklyn. Negotiations were opened by the Brooklyn Edison Company with a manufacturer of pianos, a German. He was interested and after a careful study was made of his plant a concrete proposition was made, offering a very favorable rate

for both light and power, based on his load conditions.

The piano-man, read the proposition over, studied the contract and finally said: "Vell, dot money it looks like too much to me fur dis place, an' I don't know wot you say by 'kilowatts' and 'horse-power hours'—but I'll tell you wot I do. You tell me wot it cost me for electricks by every time I finish a piano—that's the way—so much a piano I make, an' if it ain't too much I pay you."



## *A Window Display Series in Rockford*

THE Rockford Electric Co. of Rockford, Ill., has always been a strong believer in the efficacy of window display advertising and photographs of various displays have been reproduced from time to time in this magazine.

Their policy has been largely to loan the window to various local merchants and manufacturers for exhibits of their product, showing in some way each time the application

of the Rockford Electric Co., writes:

"Some time ago we inaugurated the plan of donating the use of our large show window to the various power consumers, for the purpose of enabling them to acquaint the public of Rockford with goods 'Made in Rockford.' The idea seems to have made quite a hit with our people here and the window is engaged well in advance.

"Among the exhibitors thus far is



A Newspaper Display in the Window of the Rockford Gas & Electric Company

of electricity to that particular trade or industry.

The picture shown herewith is a striking illustration of the latitude there is in such a scheme, for a newspaper though a large user of electric power is nevertheless a seldom seen advertiser, and that very fact makes such a display all the more striking, unusual and effectual in a central station window.

Mr. F. H. Golding, the Manager

of the Register Gazette and I am sending you herewith a photograph of their window together with their editorial comments on same. It strikes me that the interesting part of this is that even a newspaper can appreciate the value of such a display."

The editorial comment Mr. Golding speaks of was as follows:

"The Rockford Electric Co. is presenting a series of educational window exhibits—

illustrative of the fact that electricity is playing a most important part in the economics of present day life.

"These exhibits are designed to show the wide range of uses to which electricity is applied, and particularly the great variety of manufacturing machines that can be operated cheaply and simply by motor power.

"As the Register-Gazette plant is equipped with six motors using the company's power, it was deemed appropriate to make a window display, carrying with it the information that, like all other up-to-date newspaper plants, the Register-Gazette depended wholly upon electricity for its power. While the 'junk' from a composing room is not ideally fitted for artistic window decoration, the skill of Mr. Fred Fish evolved a very creditable arrangement, that is at least suggestive of the mechanical department of a newspaper, and

those who become sufficiently interested to wish to see more of the operations of producing a newspaper by the modern methods of linotyping and stereotyping are cordially invited to visit the Register-Gazette office at any time during the day. The best time is about four o'clock, when the big, new press is in operation." Etc., etc.

Here is another instance of the co-operation with local spirit and enterprise that makes the central station an acknowledged participant in the common progress. It means not only a novel window that brings good results in advertising, not only free publicity through the press, but an intimate relationship with the merchants and manufacturers which can lead only one way.

## A Dollar Idea

By John G. Learned, Contract Agent  
North Shore Electric Company, Chicago, Ill.



**W**E have recently inaugurated a new policy as regards our newspaper advertising, and have agreed to use space in each case to equal the amount of the light and power bills of the paper. This does not mean that we will carry counter accounts and exchange current for advertising, but the newspapers will pay us according to the reading of the meter and we will devote a like sum to space in the respective sheets.

From the time I informed the newspapers of this offer, we have received most unprecedented support and in some cases where there is a competitive situation and certain journals have been dealing with the opposition, they have switched to us and use our service extensively. I anticipate that the offices of the newspapers in which we advertise will be the best illuminated premises in their towns. You will appreciate the possibilities of this proposition.



## Working Up a Slogan Sign

How a Central Station Participated in a Popular Movement to Resist the Trade Competition of a Larger City

By G. R. TRUMBULL

FREDERICK GAS AND ELECTRIC COMPANY, FREDERICK, MD.

**F**REDERICK is a city of ten thousand people, the fourth city in Maryland in point of population and importance and situated in the northern part of the state, in the heart of one of the richest agricultural districts in this country. There is none of the cities of the Southland more famous in history than Frederick, credited with being the first town to repudiate the Stamp Act, and noted as the home of Barbara Freitchie. Prominence was also acquired during the Civil War from several battles fought here, and last but not least, we hope for further fame for well-lighted streets and stores, excellent electric and gas service, and perfectly satisfied consumers.

The town has no industries to speak of, with no facilities to encourage any, and the people do not incline to manufacturing and progression, being of a very conservative and home-loving nature. They are well-to-do, however, and there is plenty of money available but it is not in good, healthy circulation. Up until March 1, 1909, no effort whatever had been made by this company toward acquiring new business. At that time no shop windows were lighted except on Saturday night, there were only a few small transparent electric signs visible, and the streets were lighted by the municipal plant with miserable

antiquated arcs fit only for the junk pile. It all presented a very dismal and lonesome picture to a stranger arriving in town, and caused him to hold tight to his pocketbook, notwithstanding the enviable reputation of the town for no burglaries in five years.

But it was up to us to "get busy" and "start something." The windows looked like the best and quick-



A Frederick, Md., Hotel with Three Signs

est proposition, so we went after them first, and inside of a month all windows of any size were burning on a flat rate every night except Sunday. Prejudice against any lighting whatever on Sunday has been so strong that only recently two or three merchants have dared to light their windows and signs on Sunday night. If our ability and capacity for "wind-jamming" does not become exhausted, in a short time we will have them all convinced that

Sunday is *the* best night for electrical advertising.

Our sign campaign has been much slower work, the aim being to place a few large, well-made signs, all different but each impressive with its own individuality, rather than to put out a great number of small insignificant affairs, all looking alike. We have one sign, in particular, of which we are justly proud. It represents a special brand of flour pushed by the local mill and is sixteen by thirty feet in size, contains four hundred and twenty lamps, and can be run with either a steady or a snake chasing border.



Advertising a Home Product

Another attractive sign put up for the local newspaper, "The News," represents the only newspaper in town, and we feel that this is the highest recommendation that electric advertising can receive. We attribute the sale of this sign very largely to an article in the September issue of *SELLING ELECTRICITY* on "Newspaper Signs." As soon as this issue was received we immediately carried it to the business manager of the paper, and after he had read it the sale seemed clinched then and there, for we received the order a few days later. Our only

hotel is advertised pretty well with electric signs, one representing the hotel proper, another the bar, and a third the garage.

Our power prospects are very limited, relying mostly on small installations, as there are only two manufacturing plants in the city. Heating appliances are not pushed for we must not neglect our gas department.

A short time ago, however, the Business Men's Club met to discuss methods of competing with the Merchants and Manufacturers Association of Baltimore. That Association has a scheme for rebating railroad fare to those who buy goods in their city, if within the radius of one hundred miles. They advertised this offer extensively in all the surrounding country within the stated distance. This has hurt our merchants considerably, and they are "getting wise" to the fact that they must do some good strong advertising of their own to hold local trade at home. We figured that here was a chance to "score a bull's eye" for electrical advertising, for if Montgomery and Easton can appreciate and support a slogan sign, we are sure that Frederick can.

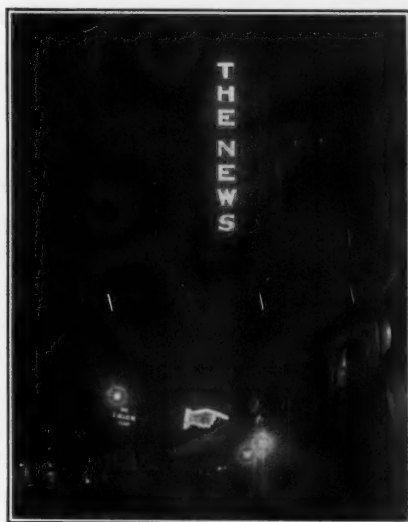
The plan was laid before the Business Men's Club and they adopted the slogan, "BUY IN FREDERICK," for use in small newspaper advertising. We immediately made a further proposition that if they would pay for the current consumed we would furnish, put up, and maintain a large roof sign, bearing the slogan. Well; our ideas of what a slogan sign should be so staggered

the Business Men's Club that they have not recovered yet. The proposition fell through, but we could not see a chance like this slip through our fingers, so we doubled our efforts.

We did some heavy advertising in the local paper at once, announcing that within four or five days our representative, with a couple of leading merchants, who had awakened earlier than the others and become enthused, would call on all the leading men of the town with the greatest advertising proposition ever introduced to Frederick. With the help of the May edition of SELLING ELECTRICITY containing a description and photographs of the Easton slogan sign and the story of "The Awakening of Easton," and with a newspaper picture and article on the Montgomery slogan sign, we managed to arouse enough interest and enthusiasm so that out of the fifty merchants called on thirty-five were willing to give \$10.00 apiece.

That is the way we stand at present, but the work is going forward and we believe that when the sign

is up and burning, a general popular enthusiasm and approval will follow. Fredericktonians are in some respect "Missourians," but we have



The Only Paper in Frederick Burns a Sign

all confidence in the power of a slogan sign and expect to see a very gratifying effect on local business conditions, and the popular regard for the Frederick Gas & Electric Company.

## A Dollar Idea

By A. W. Young, Manager  
Star Electrical Concern, New York City



**I**T has been common practice among progressive central stations to loan electric chafing dishes and similar appliances for use at church socials, bazaars and the like. Why not carry it a step further, follow the society columns in the daily press and make the same offers in the case of "At Homes" and "Teas," and in addition install an electric curling iron in the room where the ladies lay off their wraps and an electric cigar lighter in the room set apart for the men?

It is bound to create interest and sales, for many of these people have never really seen and handled the devices, no matter how much they may have heard of them.

## A Dollar Idea

By J. E. Bullard, Power Agent  
Toronto Electric Light Company, Ltd., Toronto, Canada



**T**HE electric power solicitor, who is soliciting power on a meter basis, is almost daily confronted by a question very hard to answer. The man he is talking to has always bought steam power at so much per horse-power year. He, therefore, very naturally asks the question, "How much will electric power cost per horse-power per year?"

Since he can tell you how big a motor he will need, he cannot understand why you cannot tell him exactly how much it will cost per horse-power year to run that motor, and it is extremely difficult to make it clear to him that his power cost will depend on his load factor. I find that there are two methods that can be used in conjunction to answer this query and explain to a man simply and clearly what the load factor is and that you cannot tell him in advance just what will be the cost per horse-power installed though you can tell him what will be the cost per horse-power actually used.

The first method is to select the largest and most economical users on your lines and get from the accounting department their bills for the preceding year. Divide the total amount for the year by the connected load in horse-power and you have the cost per year for the motors installed. You will find that the horse-power cost thus found will vary greatly with the different firms and the different kinds of business. This will aid you immensely in explaining to a man that you cannot tell him in advance exactly what his bill will be.

The second method is to place in the factories of these same firms a recording ammeter so that the load curve will be traced. This will show the friction load and the variations in the working load. The combination of these two methods will show the dullest man what the load factor is, the importance of reducing the friction load and that his power bill will depend more on the lay-out of his shop and the way in which he makes use of power than on any other features.

## A Talk on Rates

Being a Statement to the Public, by W. F. Davidson, Vice-President, Chippewa River Power Company, Port Huron, Mich.

THE *Bay City (Mich.) Times* recently published the following account of an interview with Mr. W. F. Davidson, vice-president of the Chippewa River Power Company of Port Huron, Mich.

Mr. Davidson at that time was engaged in a study of conditions in Bay City with a view to extending the operations of his company to that city and adjacent territory. The subject of franchise was under discussion by the city Ordinance Committee and Mr. Davidson was asked to give his opinion on the main point at issue.

His statement is a remarkably clear exposition of the intricacy of the central station rate problem, and as a direct explanation to the people is particularly forceful. Mr. Davidson said:—

"Electric lighting is a service that must be furnished at the instant the consumer demands it, and in this respect it differs from manufacturing a commodity. This distinction between rendering a service and manufacturing a commodity is important. For instance, a gas plant can manufacture gas at a uniform rate of production, and store it in the gas holder during those hours when there is little demand made upon the company by the consumer. In other words, manufacture need not be instantaneous with the demand by the customer.

"It will be readily seen from these differences that an electric lighting

company must install apparatus to meet the maximum demand of its customers even though this apparatus may be in service to its capacity but a few hours during the twenty-four. This imposes a relatively high fixed charge for apparatus, lines, service and appurtenances which the consuming public must carry.

"To illustrate: The following table was compiled from the records of a large railway and lighting company by dividing the total number of consumers into classes of long and short-hour users. This has a distinct bearing on the subject and indicates how small a portion of the total average day, generating equipment lines, services, and appurtenances are used by the public.

Hours Use	Number of Customers	Units Consumed
0- 1 Hr. ....	899	267,000
1- 2 Hr. ....	491	403,000
2- 3 Hr. ....	236	363,000
3- 4 Hr. ....	119	252,100
4- 5 Hr. ....	68	103,100
5- 6 Hr. ....	34	81,450
6- 7 Hr. ....	19	36,050
7- 8 Hr. ....	17	26,200
8- 9 Hr. ....	9	27,351
9-10 Hr. ....	9	31,120
10-11 Hr. ....	5	6,515
11-12 Hr. ....	2	4,931
12-24 Hr. ....	15	34,900
	1,922	1,637,217

"This table clearly shows the astonishing facts that 78½ per cent of the total current consumed was generated during four hours of operation out of the twenty-four, or 1-6 of the day, and that the plant was operated the balance, or 5-6 of the day, solely to fill the requirements of



109 customers out of a total of 1,922 customers. During the normal working day of 10 hours, 97 2-10 per cent of the total output was consumed and the plant was kept in operation 14 hours, or more than one-half of the day, to meet the demands of 21 customers who consumed but 2 8-10 per cent of the total output.

"These peculiar characteristics of the electric lighting business have led the companies to adopt a system of rates based upon the number of hours' service of the customer. Even a layman can readily understand that of two customers, each having a five-lamp installation, the one who uses his lamps 10 hours a day is more desirable than the customer who uses his lamps one hour a day. The first customer avails himself of the investment which is made on his account and the second does not. While the long hour user may feel that the short hour user pays too little for the electricity he uses and the short hour user may think his rate too high as compared with the low rate of his long hour neighbor, the facts must not be lost sight of, that the long hour user, though his rate is low, helps to reduce the rate to the short hour class who could not be served at the rates usually named without the existence of the long hour class. The long hour user keeps in operation a part of the expensive machinery required to serve the short hour user at such times when it would otherwise stand idle, and the revenue from this source permits of an equitable rate to the short hour user.

"To successfully solve this rate problem requires not only a theoretical knowledge, but also a thorough practical knowledge of the commercial conditions in the actual locality where the electrical energy is sold, and it is only by a skilful creation and combination of the long and short hour users that the whole body of customers can be made equitable rates which avoid any discrimination between customers of the same class. Companies are often charged with discrimination but while an equitable system of rates does discriminate between long and short hour consumers it does not discriminate if properly made between consumers of the same class.

"The effect of a relatively high maximum lighting rate today does not carry the same objections from the consumer's standpoint as it did a year or more ago, by reason of improvements in the art of manufacturing higher economy incandescent lamps. For example: Take an installation of ten 20-candle-power high efficiency lamps, burning for two hours each day for a month. Each lamp will consume 25 watts of electrical energy per hour, or a total consumption for the installation burning two hours of 500 watts or  $\frac{1}{2}$  a kilowatt. This daily consumption times 30 days would amount to 15,000 watts or 15 kilowatts, which at 10c per kilowatt would amount to \$1.50.

"The same installation with ordinary lamps, of the same candle-power burning an equivalent length of time, would result as follows: Each lamp would consume 62 watts of

electrical energy per hour, or a total consumption for the installation burning two hours of 1,240 watts or 1.24 kilowatts. This daily consumption times 30 days would amount to 37,200 watts or 37.2 kilowatts, which at 10 cents per kilowatt would amount to \$3.72. The new lamp, you see, effects a saving of \$2.22.

"It is obvious that an equitable system of rates must be based on the cost of production plus the interest and depreciation charges on actual and real value of machinery and other apparatus installed, with reasonable profit added. It is our belief that if a company is given an equitable ordinance, it should make satisfactory rates that will insure the business in a field of competition. Otherwise the company can-

not hope to secure the business commensurate with the large investment it must make.

"Now as to our plans and principles in establishing the development of the Chippewa River Power Company, and bringing electricity into Bay City to serve its people, we wish it distinctly understood that we are establishing a business in the same way and upon the same lines as any factory that you now have here, or any merchant doing business here; and intend doing a strictly operating business, investing our own money. We have no objection to the council having a section in the ordinance prohibiting us from merging or consolidating with any companies doing business in Bay City."

## A Dollar Idea

L. A. Pettit, Jr., General Manager  
The Middletown Lighting Co., Middletown, Ohio



**F**OR the purpose of creating a novel display that would attract attention and cause comment, we recently placed in the middle of our window a large fish globe filled with water. We suspended a 100-watt tungsten lamp by two fine magnet wires soldered to the lamp base so that the lamp hung immersed in the water, where it burned, magnified in size about three times.

On the floor of the window we placed several books lying open, with other lamps lying on them connected up by magnet wires in the same way. The insulation of the wire was the same color as the floor of the window and was practically invisible and to all appearances the lamps were simply lying there burning without sockets or other connection.

In the centre of the window was a card reading: "Tungsten Lamps Will Burn Anywhere." The display attracted a great deal of interest and comment.



## *Developing a Day Service in Montrose, Col.*

By C. L. FLOWER, MANAGER

MONTROSE ELECTRIC LIGHT & POWER CO., MONTROSE, COLORADO

**M**ONTROSE, with its immediate environments, has a population of about 3,000, a country town in the midst of an agricultural section, with practically no industrial life. As in many another town, however, there was a considerable call for a 24-hour service, and people thought that light should be provided regardless of the amount of business available and the effect on the finances of the lighting company.

For more than a year, the situation was gone over from every possible point of view and though we figured the potential value of every accessible power customer, we could not see our way clear. Finally, a movement was begun looking to the operation of a pressed brick plant in the town, and with this as a basis we worked up the other power prospects until we secured a total guaranteed minimum of \$175.00 per month from the following straight power customers:—

1 Planing mill.....	15 hp.
1 Steam laundry.....	7½ hp.
1 Meat market.....	3 hp.
1 Printing office.....	2 hp.
1 Printing office.....	2 hp.
1 Meat market.....	1 hp.
1 Coffee mill.....	¼ hp.
1 Buffing lathe.....	1/10 hp.

In addition to this there were three stores which paid a power minimum for fan service in addition to the meter rate.

Our contracts with the planing mill, the printing offices and the laundry were to the effect that when our business from straight power customers aggregated more than \$175.00 per month, they were to enjoy a reduction of minimum to the regular schedule of rates which is:— Under 5 hp. in motors, 7½c per kwh.; 5 hp. and over in motors, 5c per kwh. Minimum \$2.00 per hp. per month. As these eight initial power consumers were guaranteeing from \$15.00 to \$30.00 per month, you can understand that they were enthusiastic boosters for the day service. We landed the business of the brick plant soon after with a load of 85 hp.

This was in the summer and as the time was ripe for a flatiron campaign, we ordered 50 irons and placed them out on trial for 30 days. We then turned the business over to the contractors with the provision that they place their irons in the same way. The total number sold to date is 177, which includes three large tailors' irons. We next went after fans and landed 15. Then we got a bakery to put in a dough mixer with a 2-hp. motor and have since taken on a 5-hp. load in a machine shop and 5-hp. more in a small planing mill. We are about to close a contract with the city for a 100-hp. pump to be used for emergency service in connection with their gravity system. We have also placed 1 coffee urn, 2 water-heaters,

1 warming-oven, 1 hot plate and another coffee mill.

All our motors are single phase with the exception of the 85-hp. unit in the brick plant, which is three phase. We carry about 280 kw. in lights connected with a total connected load of 465 kw. Our December load curve, for instance, fluctuated between 25 and 35 kw. from midnight until 8 o'clock in the morning when it dropped to about 20 kw. and held thereabout until 5 p. m.

with the usual exception of the noon hour. Between 5 and 6 it rose to 150 kw. where it hung till 8 o'clock, falling to 140 kw. at 8.30, 125 kw. at 9.30, 110 kw. at 10.00, 80 kw. at 10.30, 65 kw. at 11, and so down to about 35 kw. at midnight again.

The plant now consists of 1 50-kw. single phase, and 1 150-kw. three phase direct connected units and we are at the present time installing another 150-kw. three phase belted generator.

### *An Electric Real Estate Agent*

THEY say that the best salesman is he who can sell without samples. Here is a sign erected some time ago in Brooklyn, N. Y., that surely belongs to this class.

The owners of the property did not wish to lose the revenue to be derived from billboards, but at the same time

they completely hid the property which he was anxious to sell. He therefore applied to the Brooklyn Edison Company for an electric sign and for some time burned it every night. Naturally such a sign burning on the top of a board fence attracted a great deal of attention and the lot was soon sold.





## *What the Manufacturer is Doing for the Central Station*

### II. The Central Station Development Company's Plans

BY FRANK B. RAE, JR.

**I**N the first article of this series, published last month, we gave the following explanation of our purpose:—

"There has been a very marked broadening of the mental attitude of the manufacturers of electrical products in the last few years. On every side the central station man is met with offers of aid, both material and advisory, and there is a closer harmony and co-operation between manufacturer, trade and ultimate consumer than ever before.

"Of course, the deep set commercial instinct of 'Let the Purchaser Beware!' has done much to retard this movement, and has kept many a man from participating, but in spite of this the progress was inevitable. Perhaps it is not unnatural that many have been inclined to ask 'who pays the freight?' and to hazard the guess that such expenditures by manufacturers in co-operating with their customers must be covered at the expense of the goods themselves. But down underneath is ever this clear, logical explanation: With the ever-growing production and consequent closer competition between manufacturers comes the necessity of not only selling the central station, the contractor and the dealer; but of going beyond and arousing a demand from the ultimate consumer himself, so that the dealer's market shall be self-sustaining. In other words, it is no longer a question of 'How much can we sell to him?' but a universal problem of 'How much can we sell through him?'

"The manufacturers take the initiative and offer material co-operation, and because there are still so many men who are allowing these opportunities to escape them, we believe that a short, unprejudiced account of the methods which a few of these manufacturers are pursuing will be of interest to central station men and may perhaps lead to a better understanding of the motives behind this work, and of its effect on the current-consuming public."

While the subject of the following article is not a manufacturer, it is a company with service for sale. In considering this company's work, the question to be asked by the shrewd central station man is:—"What is there in it for me?"

**T**HE Central Station Development Company is not a new idea; it is an old idea made practical for the first time. In making it the subject of an article on "What the Manufacturer is Doing," it is perhaps well to explain that while this concern is not a manufacturer at all, its commercial development work for and in behalf of central stations promises to be of more vital importance to the new business men of the industry than the work of any manufacturer. For this company, backed by ample capital and with the co-operation of some of the strongest manufacturing interests, announces itself as ready

to "render assistance to electric lighting companies in building up their commercial departments along the lines and by the modern methods that have stood for success in all other fields of endeavor the world over."

The first gun of the Central Station Development Company's campaign is a handbook bearing the alliterative title, "Central Station Stimulation." This handbook, which was sent to *SELLING ELECTRICITY* for criticism while still in manuscript form, includes all the necessary advertising materials, such as letters, folders, and return post-cards, in addition to a perfect working system

showing cards, application forms, contracts and methods of filing, the use of which in connection with central station new business departments will enable the new business manager to put into effect immediately the exploitation of any electrical apparatus or devices which may add to the revenue of his plant.

In insisting upon the necessity for complete and practical systems as the first step toward commercial growth, the handbook, in its introduction, cites the following instance of slipshod organization:

"The head of a Commercial or New Business Department of a plant operating in a city of over half a million, being asked how many houses it contained, confessed 'he didn't know' but that he 'believed' that there were about 75,000; questioned as to the probable number of houses wired, but not using electricity, he 'guessed' about 5,000 and he 'judged' that in the business section and among all small merchants scattered throughout the city—such as grocers, butchers, bakers, druggists, dairies, meat shops, milliners, saloons, etc., 'somewhere about' 3,000—were 'not on the line.'

"The facts were that his city records, through Water and Tax Departments, showed 100,000 houses.

"The Fire Underwriters, during five years, had made over 30,000 inspections of which his company had on its lines but 9,000; while his city directory proved the number of small merchants, in twenty lines of business, to be over 12,500, of which number but 2,500 were 'connected up.'

"All he knew definitely was, that there were on the company's books, as customers, about 9,000 names. At the time that this condition of affairs was uncovered he had in his so-called New Business Department about 35,000 cards, promiscuously made out from reports brought in from time to time by solicitors of the Contracting Department (never a reliable source for this important information) which, for quick, effective campaign work was practically worthless.

"Within a short time, using the official records that are always accessible in all cities, he secured and arranged in alphabetical street order number 100,000 cards, divided into three sections:

Section No. 1 containing the names of his customers....	9,000
Section No. 2 containing houses wired not using electricity .....	21,000
Section No. 3 houses not wired .....	70,000

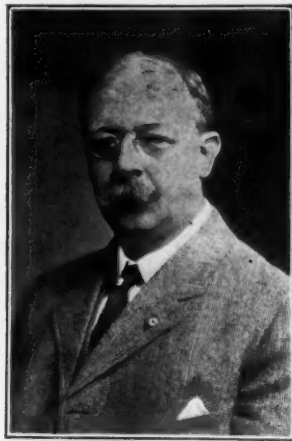
"Thus equipped, by applying aggressive business methods, attacking one specific thing at one time and putting all his available force and intelligence behind each effort, he succeeded in a few years in raising the number of his customers from 9,000 to 21,000, at an expense to his company of 40 per cent less than he was spending on pretty and expensive books, folders, etc., printed in several colors and telling in a general way what a wonderful thing electricity was, what marvelous things it would do, and that if the public would call at the shop, further details would be given."

As similar reform in the matter of information and lists is the first essential of success in any new business campaign, the Central Station Development Company has designed a flexible yet comprehensive system of cards and forms and has even selected or designed the necessary filing cabinets and office fittings for taking care of same. This equipment is in sectional form so that all or any part may be used by a central station new business department

paign. Here again is flexibility; campaigns are laid out for large communities and small, covering every detail of central station service. The remarkable point about the advertising material furnished is its conservatism and simplicity. Circus methods are tabooed; pretty pictures and spectacular printed matter are notable by their absence. The publicity material furnished and recommended is not clever or catchy; it is not humorous or beauti-



E. J. Kulas, President  
The Central Station Development Company



W. H. Wissing, General Manager  
The Central Station Development Company

according to its needs. Thus, not only is the department started with a thorough knowledge of the territory and of the sales possibilities of that territory, but well-designed, smooth-running system machinery is provided so that this knowledge can be applied instantly to serve the needs of the moment.

Having provided its clients with thorough working knowledge of the field to be covered, the Central Station Development Company next takes up the actual plans of cam-

ful, but it is, according to the experience of those who have used it, entirely successful in doing what it was designed to do—it brings results. And when I say this, please remember that I, the writer of this review, am an advertising man myself and not easily "enthused" at the ordinary efforts of the ad-smith.

To back up and make effective these campaigns—for it must be understood at the outset that advertising alone will not bring contracts—the Company has brought together

a corps of trained salesmen under the supervision of men who know both the technical and commercial ends of the central station business. These men are placed at the command of the lighting companies as auxiliary solicitors working in co-operation with the existing organization. The principle is much the same as that adopted by several of the large syndicates who employ specialists in various branches of commercial work, to assist their local companies.

Behind these "flying squadrons" of trained salesmen are the organizations of a number of prominent appliance manufacturers. These manufacturers saw how greatly such a concern could benefit the industry and agreed to lend their moral support and active co-operation. This co-operation takes the form of aggressive sales assistance in which the experience of the manufacturers and the energy of the manufacturers' organizations are employed to the fullest extent.

If it can "deliver the goods"—and the evidence is pretty strong that it can—the Central Station Development Company is a factor with which every commercial man in the field will have to reckon and which every manager will have to study. It will set a standard of success higher than has been set by any individual or company. It will prove obsolete the methods which have been followed by those companies to whom the new business idea is something of a side issue, instead of a vital part of the company's organization. Finally, it will make central

station commercial development an important element in the future calculations of boards of directors and stockholders.

What most impresses one in studying this Company's plan of actions is its thoroughness. It does not, as do the advertising concerns, deal in generalities. It has a tangible working plan, carried out along lines which have already proven successful and it provides not alone the plan but the material and men to make that plan a practical success.

The Central Station Development Company is under the general management of Mr. W. H. Wissing, whose commercial experience both in and out of the central station commercial field has been wide and successful. After serving what he terms his "apprenticeship" of some twenty years as a salesman of electrical machinery to central stations, Mr. Wissing was placed at the head of the new business department of one of the largest lighting plants in the country, where he had charge of sales and advertising from 1904 to 1909, within which time the number of customers on his company's circuits was more than doubled and the net profit per customer greatly increased.

One of his sales plans was a lighting campaign in which he employed Tungstolier fixtures. This campaign was so successful that he was offered the general management of the Tungstolier Company out of hand. Of course he accepted. And now, after making good with them, he and Mr. E. J. Kulas have launched this new concern.

Mr. Wissing is a theorist—with a reverse English. He establishes a truth first and clothes it in words afterward. Most of the statements he makes he backs up with figures culled from hard experience, which give particular points to the following:

"Success in any field of endeavor is accomplished through such perfect knowledge of the territory to be invaded as will render it possible and easy to concentrate quickly all your forces in orderly array upon a definite point of attack.

"The lack of information in central station offices concerning such simple items as the number of houses there are in their city, how many of them are wired but not using service and the total number of houses not wired, is astounding, while the guesses made in connection with these most important but simple items (all of which should be on record in a department organized for that purpose) would be amusing, did they not, from a commercial standpoint border upon the absurd.

"Definite and absolute knowledge and system in the commercial departments or in the contracting departments of the central stations is the exception, not the prevailing rule. The simple and sane methods

employed by commercial houses, by means of which every prospect is indexed and accessible, are, in 90 per cent of the central stations, utterly wanting."

The Central Station Development Company has still to prove its worth. Its plans and propositions are sound and have already been demonstrated as successful. The men behind it have been equally successful, for besides Mr. Wissing, who will have charge, there is Mr. Kulas, whose record of success is both spectacular and substantial. Though only thirty years old Mr. Kulas has been president of the Tungstolier Company and the Cleveland Gas & Electric Fixture Company; treasurer of the Pennsylvania Gas & Electric Fixture Company; vice-president of the Conneaut Company and the A. & W. Electric Sign Company, and secretary of the Brilliant Electric Company. He is still associated actively with the four first-named concerns. Whether or not Messrs. Wissing, Kulas and their new company "make good" and become a power in the field of central station commercialism, the publications of its handbook is a service to every live man in the field and its plan of action one which, if not adopted out of hand, should at least be adopted in part.



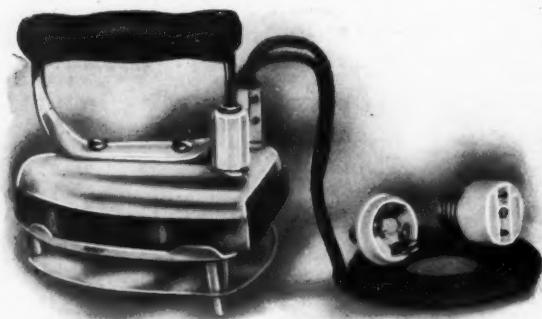


## Electrical Progress Department

### An Improved Laundry Iron

This year's model of the laundry irons made by the Excel Electric Heating Company, Newark, N. J., has several features of interest to central stations who are now placing orders for stocks of heating devices.

A photograph of the iron is reproduced below which shows the well balanced construction and good proportions of the parts. The handle is of ebonized wood properly placed in regard to the weight to insure the least fatigue on the part of the user. The edges of the iron are bevelled and the top is neatly rounded off to prevent catching and tearing the work.



The base has three-quarters of an inch of solid casting between the heating element and the bottom so that it *stays hot all over* on heavy work. The heating element consists of two sheets of the best India mica, between which is held in one plane, a patent zig-zag resistance of special wire. This wire is held without glue or cement and the whole clamped firmly to the base by a flat sheet of iron secured by *seven* screws which effectually prevent warping, poor contact and loss of heat. The top is held on by the two screws of the handle. All that is necessary to renew the element or replace it with one of a different voltage, is to remove the screws, take off the iron sheet (heater) and substitute the new element for the old. Contact is automatically made with the two connecting studs at the heel when the top is

replaced. The flat heating element is a little smaller than the surface of the iron and as it is but 0.04 inch thick, can be readily sent through the mails.

Two porcelain plugs are used to connect the cord to the contact pins. The use of the two plugs makes all the Excel cords interchangeable for flatirons, disk heaters, chafing dishes, etc. The details of the plugs, wire spring protectors to prevent the cord breaking at the plug, braiding of the twin conductor where it separates at the iron end, etc., show exceptional care in their design—even the connection plug is specially made for 10-ampere capacity to prevent the possible overloading of the ordinary plug.

The iron is made in 3-lb., 6-lb. and 8 lb. sizes. The Excel Company gives a one year guarantee with each iron to safeguard the customer against any defect in manufacture not caught by the rigid inspection given at the factory.

Besides the laundry irons, the company makes disk stoves, chafing dishes, double boilers, tea kettles, percolators, glue pots, etc., all having the patent Excel flat heating unit.

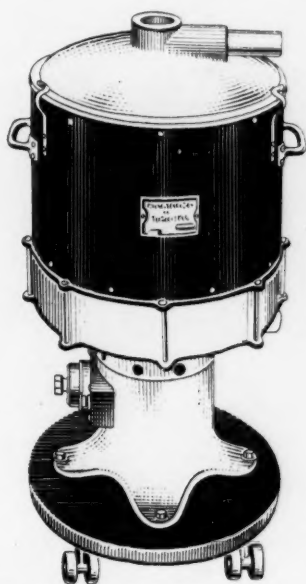
### The "Invincible" Renovator

It is of considerable importance that the central station should know the merits and demerits of the electric cleaners used on its circuits, as the introduction of inferior, inefficient and unreliable apparatus will discredit the electric service almost as much as it will the glib talker who made the sale—and the central station has to stay and take the kicks. The Electric Renovating Manufacturing Company, Pittsburg, Pa., has developed a compact household machine called the "Invincible Junior" which can be used in domestic service, but which contains the features of strength, durability and practical cleaning powers of its larger commercial machines.

The accompanying illustration shows the

"Junior" with cleaning hose removed. Each machine is equipped with fifteen feet of non-collapsible hose, an adjustable aluminum operating rod long enough to clean floors and carpets without stooping and ordinary ceiling cornices without climbing a step-ladder, and various tools or nozzles, plain and with brush, for all the needs of rugs, furniture, curtains, etc.

The suction of the Invincible renovator is obtained by a double turbine fan direct connected to the electric motor. This gives a strong, steady flow of air with any of the nozzles, so that a high velocity and large volume of air is obtained. With this powerful and uniform suction, it is unnecessary to bear down on the cleaning tool and the work is done easier, more quickly and with less wear on rugs or fabrics.



The "Invincible Junior" Electric Renovator

With the exception of the motor, nearly all the parts are aluminum, giving light and strong construction. The upper drum contains a dust bag which may be readily removed and emptied. By attaching the hose to the top instead of the bottom of the drum, a blower for renovating feather pillows, bedding, etc., is obtained. The renovator is built throughout on thoroughly practical mechanical lines with the best of

workmanship and materials, so that when sold it stays sold. It will stand the hardest usage and is suitable for service on a rental basis by central stations or private concerns.

#### The Fireproof Sign

The Federal Electric Co. of Chicago recently secured this pair of very interesting photographs showing one of their porcelain enameled signs "before and after" being subjected to the rigors of a fire.



After the fire was out and the building had cooled down a bit, the ice was melted off and the sign was tested out. Everything was found to be intact down to the last socket. This is a pretty good illustration of the durability of the electric sign and should make a strong impression on the prospective sign customer.

### A Vibration Killer For Tungsten Lamps

The name "Tungstelet" has been given to a simple little device which permits the use of tungsten or Mazda lamps in locations subjected to severe vibrations or shocks. There is a very large field among mills, factories, and similar establishments for the introduction of the tungsten lamp, but the increased electrical efficiency and superior quality of light so obtained may often be more than offset by the cost of breakage, if installed in the ordinary manner. By



Tungstelet on Wall Bracket



Sectional View of Tungstelet

placing the new Tungstelet above the lamp socket, vibrations and shock are prevented from reaching the lamp and the normal life

is obtained under most adverse conditions.

The Tungstelet is remarkably simple in construction and so small in size and pleasing in appearance that it may be used anywhere without disfiguring or changing the present fixtures. When placed between the socket and arm of a wall-bracket, any difference from the ordinary device is hardly noticeable. The device consists of a brass shell containing a spiral spring in compression, carrying the weight of the lamp and reflector: any vibration which reaches the plunger to which the spring is attached is absorbed by the spring.

The Tungstelet is smaller than the ordinary pendant push-button switch and can be inserted in a lamp cord suspension or used on any electrolier, and it is made in various finishes to harmonize with the sockets, etc. The cost is approximately that of the socket and trifling compared to that of the lamps themselves or the current saved by tungsten efficiency.

The Tungstelet Company, 101 Walker street, New York, which is putting the device on the market, has designed an ingenious demonstrating apparatus which can be used to good advantage in central station show windows. A small electric motor, with an oscillating rod attached to a crank on the shaft, is placed above a board which represents a section of ceiling. One or more fixtures of various types may be suspended from the "ceiling" board and subjected to continuous vibration of an intensity difficult to duplicate in practice. Such an exhibit ought to open up a new group of customers for the tungsten solicitor to work on during the dull lighting season now commencing. Details may be had from the manufacturers.

### Arc Lamp Poles for Brazil

F. S. Pearson & Co. have recently shipped to Brazil 800 American made arc lamp poles for use in Rio de Janeiro. The poles are of the N. Y. Edison "Broadway," type made by the J. L. Mott Iron Works, and were purchased in competition with German manufacturers whose prices, it is understood, were lower. The superior quality of the Mott poles, however, obtained the order.

## News and Reviews

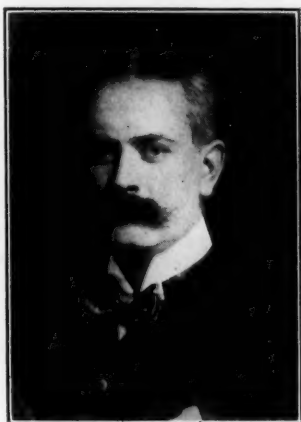
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### Elmer W. Gilmer

The passing of Elmer W. Gilmer of Warren, Ohio, is a severe and sudden blow to the entire electrical industry. His death occurred Saturday, February 19th, after an illness of less than a day.

Mr. Gilmer's interests, while large, were almost entirely confined to his home town. He founded and was the active head of The Warren Electric & Specialty Company, The Colonial Electric Company, The Peerless Electric Company, and the Hydro Electric & Gas Company, all of Warren.

Last July Mr. Gilmer succeeded the late



Mr. John C. Fish as president of the National Electric Lamp Association, and since his election to that office has forwarded the interests of the association with the same ability, thoroughness and foresight that characterized his handling of his more personal interests.

His loss is keenly felt by all those associated with him, either in a business or social way, but the foundation laid by him in his business associations will continue to bear fruit to the best interests of the electrical community for many years to come.

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### Tungsten Lamps in Rockford

An interesting statement comes from Rockford, Ill., covering a recent period of twelve months' experience with tungsten lamps. During this time there were installed 1706 tungsten lamps in 110 stores, an average of 15.5 lamps per installation. The greater part of the lamps used were of the 100-w. size, the balance being principally 60-w. and 250-w.; practically no 40-w. or 25-w. lamps being installed for store lighting.

Five hundred and eighty-seven or 34.2% of the above lamps were original installations. Three hundred and seventy-two or 22.3% were used in replacing gas, 126 or 7.4% replaced series arc lamps, 345 or 20.1% replaced other forms of electric lighting and lowered the connected load, but the rate was raised and no loss of income resulted. With 199 or 11.7% of the lamps installed the connected load equalled or exceeded the installation replaced. Seventy-seven or 4.5% of the lamps were the cause of reducing the income from the installations, but they also prevented gas being installed.

Tungsten efficiency has resulted in giving entire control of the lighting field, the gas company being practically out of the race. All lamps have been sold at list prices and mostly through the contractors. The situation was controlled by threatening to sell lamps below cost if the contractors did not hold up the connected load on all installations.

### Convention of New England Section of N. E. L. A.

The annual meeting and convention of the New England Section of the N. E. L. A. will be held in Boston on March 16th and 17th. The following papers will be presented:—

"Insurance for Central Stations," W. H. Blood, Jr., of the Stone & Webster Corporation.

"Attitude of Central Stations Toward Electric Automobiles," James T. Hutchings, General Manager, Rochester (N. Y.) Railway & Light Co.

"Increasing the Load on Existing Lines," E. R. Davenport, Sales Agent, Narragansett Electric Lighting Co., Providence, R. I.

"Price of Electricity," R. S. Hale, General Superintendent Sales Department, Boston Edison Co.

A large attendance and a most successful convention is promised. Among the social features will be a theater party at the American Music Hall and a banquet at the American House.

#### Another Big Easton Sign

Through the activities of Mr. D. M. Coughlin, contract agent of the Easton Gas & Electric Company, a large electric sign with flasher effects has been installed in Easton, Pa., facing the tracks of the Lehigh Valley and New Jersey Central R. R. The sign measures 59 x 204 feet and was built by the Valentine Electric Sign Company.

Another new Valentine creation is the display on the office of the Scranton Electric Co., described in the February issue of *SELLING ELECTRICITY*. The flasher effects are produced by Reynolds-Dull Flashers.

#### Meeting of the New York Section of Illuminating Engineering Society

The March meeting of the New York Section of the Illuminating Engineering Society will be held on March 17th at the Engineering Society's building.

The following papers will be delivered:—

"The Relationship of Decoration to the Illuminating Engineering Practice," by R. C. Clifford.

"Color Measurements of Illuminants, A Resume," by Dr. H. E. Ives.

"A Standard for Color Values of Artificial Lights—The White Moore Light," by Dr. McFarlan Moore.

#### News From Toronto

Mr. H. H. Macrae has assumed the management of the Toronto Electric Light Co., Ltd., Toronto, Canada, with Mr. W. A. Martin, as assistant general manager. A reorganization of the sales department of the company has also brought another promotion to Mr. Eugene Creed. Mr. Creed

is now sales manager and Mr. Redway is assistant sales manager.

The city has been divided into six districts, each in charge of a district agent with as many men as the population and circumstances warrant. New men are being added, and it is expected that the department will number 25 salesmen in the near future. An energetic campaign is being conducted for house lighting and about 20,000 16-cp. equivalents were secured in the month of February. A peculiar custom obtains in Toronto, which makes it particularly difficult to secure this class of business. All fixtures in wired houses are the property of the tenant, and whenever a new tenant moves in he must be induced to purchase new fixtures. During the same month 18 electric signs were installed in Toronto.

#### Gas Sophistry

This interesting item recently appeared in a house organ published by a Pennsylvania gas company:

Hygiene of Gas Lighting.—It is not generally known that the use of gas lights in a room or store constitutes one of the best forms of ventilation. The heat radiating from the light maintains a constant, gentle motion of the atmosphere, carrying the impure air and the impurities, a large part of which are destroyed by the flame itself, through open doors and through the unnoticed cracks and crevices that are in every room. This ventilation is going on quietly, constantly and unobtrusively, with out fuss or feathers or sudden blasts of cold air, and that is the reason why the unanalytical do not recognize the hygienic quality of gas illumination.

#### P. D. Wagoner

Mr. P. D. Wagoner has been elected president of the General Vehicle Company, Long Island City, succeeding Mr. J. Howard Hanson, who has withdrawn from the company. Mr. Wagoner brings to his new work a wide experience in engineering and commercial affairs, and under his administration, the outlook for the future of the General Vehicle Company appears very bright.



**Johns-Manville Co. Change Location in Chicago and Baltimore**

Due to the fast increasing business, both the Chicago and Baltimore branches of the H. W. Johns-Manville Co. have outgrown their present quarters, and about March 1st both moved to new locations with more room.

The Chicago branch, formerly on Randolph street moved to the four-story and basement building at Nos. 27-29 Michigan avenue. The Baltimore office, store and warehouse is now located at No. 30 Light street.

**"Buckeye Smith"**

Mr. J. M. Smith, better known to the lamp buying public as "Buckeye Smith" has recently been appointed sales manager of the Moline Incandescent Lamp Company of Moline, Ill.

He is perhaps the father of modern industrial illumination. His work in the textile mills of the east was the beginning of the revolution which has taken place in textile and industrial mill lighting. He



worked in these mills as a young man before entering the lamp business, and his intimate knowledge, both of lamps and also of the industries, has brought him success as a salesman and illumination expert.

Mr. Smith was for eight years the eastern representative of the Buckeye Electric Company, and there are few lamp men in the east better known to the trade.

**Beautifying City Arcs in Montgomery**

The Montgomery Light & Water Power Co. is co-operating with a "City Beautiful" movement in Montgomery, Ala., by overhauling the city arcs and distributing lines in order that they may present the best possible appearance. Lamps are being painted, enameled and adjusted to a standard height, and the effect on the streets is admirable.

**Tests on Gas and Electric Meters**

Eighty-five electric meters and 533 gas meters were recently tested by the New York City Public Service Commission.

Of the 85 electric meters, 3 were found too fast, 8 too slow and the balance 74 tested out were within the 4% variation allowed. Of the 533 gas meters, 264 were too fast, while only 37 proved too slow. The percentages figure for electric 2.5 fast, 9.4 slow, and for gas, 49.5 fast, 6.9 slow.

All these meters were tested under the complaint of the consumer, and the comparison is an interesting testimonial to the comparative efficiency of the electric device.

**Minstrel Show in Denver**

The commercial department of the Denver Gas & Electric Co. recently gave a minstrel show in honor of the Denver Hotel and Restaurant Keepers' Association. The entertainment took place in the demonstration hall of the company building, which has a seating capacity of about 200 and was more than filled.

Some very interesting lighting effects were produced, each minstrel having a scarf across his shirt bosom, under which was concealed an electric lamp of the candle type. During the opening chorus, the current was flashed on by means of a contact from the stage floor to the lamp, giving a most effective appearance. Underneath each minstrel's chair was a concealed skeedoodle lamp flashing on and off. The chairs were covered with red, white and blue cloth, each lamp being of similar color. Each member of the "Peerless Quartette," when giving his selection, held a large rag doll, with an electric lamp inside its head, which illuminated the baby's face during the song, giving quite an appearance. The hit of the

evening was Mr. E. M. Jackson's complaining of the poorly-lighted stage, and informing the audience that he brought his own gas works with him. Then from the gas fixture projecting from his shirt bosom, he lighted a gas jet, the supply of gas coming from a gas bag which he carried underneath his coat. The effect was most amusing.

Punch and dainty refreshments were served, giving an opportunity for the members of the commercial department to become well acquainted with their guests.

#### N. E. L. A. and Westinghouse Officers Meet

The officers of the Westinghouse Electric Manufacturing Co. and the National Electric Light Association held a "Get-together" meeting in Pittsburg on March 2d. Approximately 150 men interested in central station development were present and over half of this number were men not yet affiliated with the N. E. L. A. As evidence that the meeting was productive of results, Mr. T. C. Martin, the executive secretary of the National Electric Light Association reports over 100 class "E" members and 15 class "A" members already enrolled.

Two convention sessions were held and a number of papers were presented. The meeting was also addressed by Mr. Frank W. Frueauff, president of the National Electric Light Association, Mr. Henry L. Doherty, Mr. T. C. Martin and Mr. H. H. Scott, chairman of the N. E. L. A. membership committee.

A tour of the Westinghouse works, a luncheon and a dinner were features of the meeting. A unique innovation at the dinner was the utilizing of Westinghouse disc stoves at each cover, the stoves being connected up at the time for serving of French pancakes, giving each guest the strange appearance of making his own. The stoves were afterwards put in boxes by the waiters and handed to each one as souvenirs of a profitable "Get-together" day.

#### Electricity Known to Moses

A curious study entitled *Electro-technics in the Bible*, is contributed by E. Stadelmann, an electric engineer of Munich, to the *Electrotechnische Anzeiger*. The writ-

er asserts that the ancient Jews had some knowledge of electricity, and he tries to prove this by an ingenious analysis of scriptural narrative. "The first place," says Stadelmann, "Moses evidently understood the uses of the lightning conductor." To quote from Scripture:

"Did he not make a brazen serpent to defend his people against the fiery serpents (lightnings) sent upon them by the Almighty, so that the fiery serpents were seized by the brazen one? The temple at Jerusalem was protected against lightning by interconnected metal points communicating with the ground through reservoirs of water."

Still more curious is the explanation given by Mr. Stadelmann of the construction of the Ark of the Covenant and of the terrible punishments visited upon the unfortunates who dared to approach too near it:

"If we study the details of its construction we find that it was composed of an insulating receptacle (of acacia wood) and of two metallic coatings (gilding), one exterior, one interior; it therefore formed a Leyden jar of great dimensions. This condenser, charged with atmospheric electricity by the metal conductors of the temple roof had, as may be calculated, from its dimensions, a capacity amply sufficient to produce a fatal discharge. Only the initiate could touch it, and this immunity enjoyed by the officiating priest is explained by the nature of his costume, which was in part of gold tissue, thus protecting him from electric discharges."

Mr. Stadelmann cites in support of his hypothesis many scriptural texts, on the construction of the ark, on the nature of the priest's costume, and on the punishment dealt out to profane persons. Moreover:

"The altar, also, must have been a powerful Leyden jar, although information regarding its installation is not available; but the passages in the Mosaic books forbidding approach to it on penalty of death to persons not wearing the prescribed costume, authorize us to consider it such.

"It would perhaps appear improbable that such powerful effects could be obtained with metallic rods on elevated points, but we must bear in mind the atmospheric peculiarities

of Palestine; and even the experiments made in Europe on the collection of electricity by means of kites, have shown that huge sparks nine or ten feet long may thus be obtained.

"Moses probably got his notions of electricity from the Egyptians, and perhaps," Mr. Stadelmann concludes, "Egyptologists may discover facts indicative of the state of electrical knowledge in the Pharaonic times."

#### Altoona, Tyrone and Logan Companies Merge

Announcement has just been made that the Edison Electric Illuminating Co. of Altoona and Citizens Electric Light, Heat & Power Co. of Altoona, Pa., and the Logan Light and Power Co. and Juniata Water & Power Co. of Tyrone, Pa., have been consolidated under the title of the Central Pennsylvania Electric Co.

The combined properties will be under the general management of Messrs. Dodge & Day of Philadelphia, with Mr. E. T. Penrose

as General Superintendent and Mr. E. B. Greene, Assistant General Superintendent. Mr. Penrose and Mr. Greene have been operating the Tyrone and Altoona companies, respectively. The Central Pennsylvania Company will furnish current to some forty adjacent cities, towns and villages, the territory reaching from Altoona, Pa., on the west to Lewistown, Pa., on the east, with substations at Altoona, Tyrone, Mount Union, McVeytown, Lewistown and Huntingdon.

**WANTED**—Two bright, energetic young men as solicitors with Central Station serving population 250,000. Good chance for advancement. Give particulars as to experience, also state salary desired.

Address "HUNDRED POINT MAN,"  
Selling Electricity.

**ELECTRICAL ENGINEER**—Age 28, with experience of central station power soliciting and new business getting methods, gained from large eastern companies, at present in charge of department, wishes to make a change. Address "ELECTRICAL ENGINEER," care of Selling Electricity.



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Honest Goods at Low Prices will make your salesroom a success. Write for the latest designs

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- ☛ Write us today for outlines of free sign proposition that will increase your business.

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How many manufacturers do you know who don't realize why their cost of production is so high?

They blame it on the machinist, never figuring the time he has to waste adjusting belts and pulleys to change the speed of his machine.

Perhaps they have never had it brought particularly to their attention that line shaft transmission also wastes about 35 to 40 per cent. of their power.

Why don't you show them that if they connect

## Fort Wayne Motors

direct to their machines they would increase the quality and quantity of their work and cut in half the cost of operation.

Our Bulletin "Motor Drives" has a lot of talking points and data on this subject that makes sales easy if you go after them, and there is nothing better for building up a profitable load for the Central Station.

There's hardly any limit to the field as we make motors that will drive almost anything that requires power to run it.

If you have not seen a copy of this booklet you're handicapped. Better send for it today and learn the various uses to which a motor may be put and incidentally why Fort Wayne motors are superior.

### FORT WAYNE ELECTRIC WORKS

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This relation and our increased and improved facilities place us in a prime position to surpass the good service and good quality of product which the Moline Company has always maintained.

The **old** line of the Moline Company consisted of a few **good** lamps. The new line of the Moline Company consists of every style and type of incandescent lamp on the present day market — 435 types in all. Our lamps are Class A lamps.

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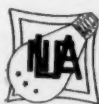
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## THE MOLINE MAZDA LAMP

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## HAVE YOU

been troubled with Returned Burned-Out Electric Heating Apparatus? If so, investigate our **Patented form of Renewal Element**; also our Return Card

Guarantee Feature. Both up to date and will relieve you of all trouble.

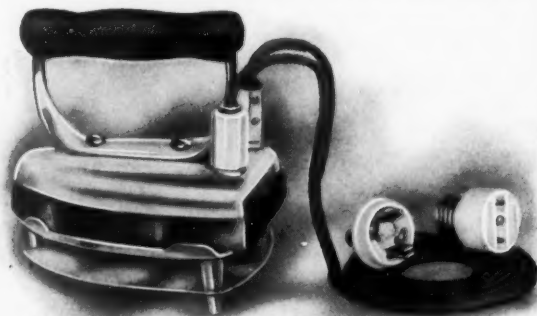
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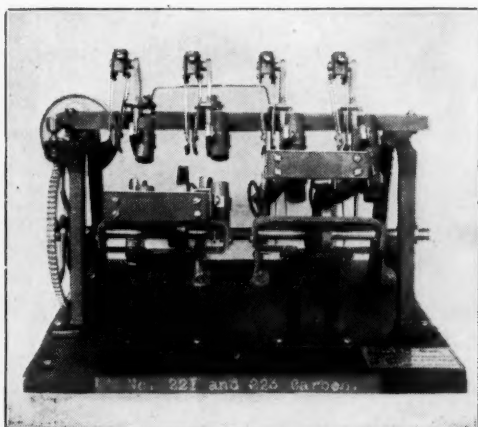
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**Dull's Flashers** have always been the best that skill could produce and experience demand. Our 1909 models were the best known to the art and our 1910 models have every improvement that a year's



time and 3000 more machines have suggested. It may have been thought impossible to improve them, but it has been done. Our 1910 models will stand more abuse than any others. They will give better results under neglect than heretofore. They will give still greater satisfac-

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are approved by the underwriters (Report No. 2005). They are the only motor-driven Flashers so approved.

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She Spies It.  
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Why?

Because she learns she can iron 30 minutes after the current is turned off.

Because she finds the top and handle so cool.

Because the iron *will not burn out* running dry.

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A Portable Vacuum Cleaning Machine combining efficiency, practicability and economy.  
Can be attached to any electric light socket.



"The only High-Grade, Efficient Machine on the Market." Guaranteed. A Dividend Payer for Central Stations. Growing concerns and responsible parties wanted as agents. Exclusive territory given. Send for Catalogue and particulars.

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The "whirling border" is new and very striking.  
Cost of operation % of total number of lamps.

HALLER SIGN WORKS (Inc.) 704 S. Clinton St., CHICAGO

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Steadily Burning  
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**ELECTRIC  
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*Right Design*  
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## Hallberg's Tungsten Sign System

Low Voltage Tungsten Sign Lamps operated in  
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Signs operated with  
the lamps in series  
are

**WRONG.**

If one lamp burns  
out 10 or 15 go out  
—and it's a job to  
find the bad one.



Hallberg's Transformer for  
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Alternating Current Type

Signs operated with  
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series are

**WRONG.**

If one lamp burns out  
several are put under  
strain—another goes,  
more strain, then pop,  
pop, pop.

A sign may operate economically with half its lamps out but  
it neither satisfies the customer nor helps the revenue of the  
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Economy with **Hallberg Reliability** by using this system

## Hallberg's Specialties for Central Station Circuits

Low Voltage Systems for Tungsten Lighting in Mills and Factories

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## Signs Flashers Color-Caps

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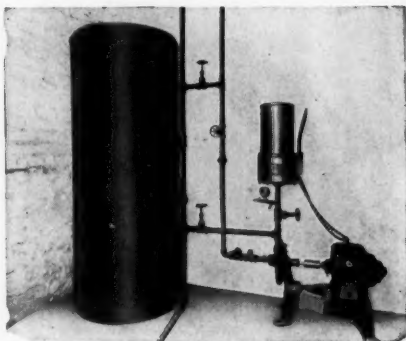
There is as much character in an electric sign as in a salesman, and we build them from that point of view—to sell goods.

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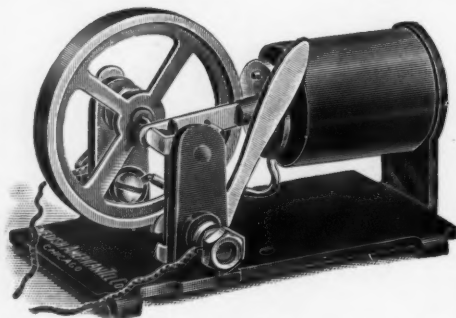
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All classes of men learn electrical ways to increase economy and efficiency in their business. **Electricity in the Household** helps and interests the women. **Junior Section** delights the young folks—opens new fields of entertainment. **Wireless Department** tells how to construct and operate wireless appa-

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get this scientific electric engine at once and the magazine regularly for twelve months with the January issue free.

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## Get the Best Equipment for Summer Fan Motor Business

Now is the time to prepare for next summer's electric fan motor business. You can't make a better start than by equipping yourself with a complete stock of G. E. 1910 models. A number of new features have been added that make for greater attractiveness, convenience and reliability.

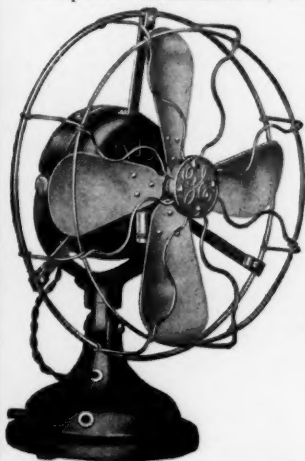
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The swivel and trunnion adjustment permits a quick change in either a horizontal or vertical direction and also allows the body of the motor to be adjusted to suit the varying heights of desks on which the fans may be placed. The motor body is held in any desired position by a thumb screw on the yoke.

### A Small Fan for Residence or Office Use

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Motors have many superior qualities. The normal operating speed is quite low, so that the fan is practically noiseless. A highly efficient air delivery is possible because of the employment of the propeller type of blade. The energy required is considerably less than for an eight candle-power incandescent lamp.



### Uniform and Positive Acting Oscillating Fans

Direct geared mechanism insures a uniform and positive rate of oscillation throughout the entire range of speeds, in marked contrast to the results obtained from blades or disks placed in front of the fan blades. The oscillating mechanism can be thrown in and

out of gear while the motor is running.

### Light Running and Attractive Ceiling and Column Fan Motors

Care has been taken in the refinement of both electrical and mechanical design of the G. E. Ceiling and Column type, and as a result the motors are unexcelled in efficiency, air delivery and freedom from noise.

Send for Bulletin 4719, which describes and illustrates the complete lines of G. E. Fan Motors.

It will pay you to get in touch with us before closing your year's agreement.

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St. Louis, Mo.  
Seattle, Wash.  
Spokane, Wash.  
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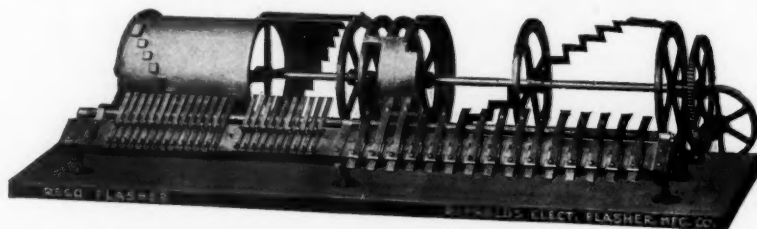
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## Flashers That Give Satisfaction

A **FLASHED** Electric Sign unquestionably attracts fifty times more attention than a steady burning one—Light Bill is reduced 40% — lamps last longer.

Write for illustrated bulletins.



**Reynolds Electric Flasher Mfg. Co.**

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## If We Told You

that  $\frac{1}{4}$  of the Home Laundry Machines we can sell in your territory would bring you new customers, what would you say?

25% of all **THOR Electric Home Laundry Machines** have gone into unwired houses — but the current has followed. It would be the same in your city and with your own men selling.

The **THOR Electric Home Laundry Machine** is your best proposition to the non-consumer.



**HURLEY MACHINE COMPANY**

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Monroe & Clinton Sts.

**NEW YORK**

Flatiron Building

In writing to advertisers, mention "Selling Electricity"



Something just a little different but does not cost any more.  
See the Druggist, Pool Room, Barber Shop and Trunk Store.

## CENTRAL STATIONS

### We Can Help You Land Sign Business

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Attractive Designs for **Special Signs** are half the battle in closing up your prospective customer.

Give us your copy, line of business; state where Sign will go, and we will supply colored sketches promptly.

If you desire starting an active campaign for Signs, ask us to send you a Designer, also expert Sign Salesmen. We will help you get larger and better Signs.

We are well equipped for developing **all shapes of Metal Signs.**

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## Greenwood Advertising Company

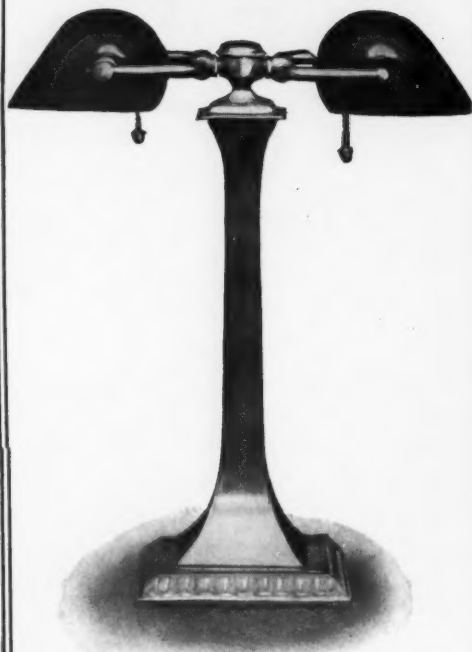
Knoxville, Tenn.



In writing to advertisers, mention "Selling Electricity"



## "Emeralite" Illumination



The "EMERALITE" Double Desk Fixture  
(Patented)

Made also in single units with or without ink-stand  
and pen rack at base

The double desk fixture, with independently adjustable shades, gives light to both sides of the desk just where and how the users want it. The rich emerald green of the exterior is adaptable to any surroundings — the opal glass interior gives a very high illumination without streaks or shadows.

Effective illuminated area 72 inches wide and 42 inches deep on each side of the double fixture.

### Also "EMERALITE" Piano Lamps

You can install "Emeralite" Fixtures  
because they are Scientific, Artistic  
and Economical

Send for Illustrated Booklet and  
10-year Calendar Desk Blotter

**H. G. McFaddin & Co.**  
40 Warren St., New York



**NOW IS THE TIME**



to sell the Simplex Toaster, new in design and highest in finish. This Toaster will not only help you sell more current but will lead to complete cooking outfits.

Built for daily use it is a most attractive addition to the table or sideboard. This Toaster is not only clean, convenient, simple and durable, but it never fails to produce crisp golden bread toasted right.

This Toaster carries with it the Simplex guarantee which has behind it over fourteen years' experience in electric heating. By installing Simplex Devices you will be sure of giving your customers satisfaction from the start.

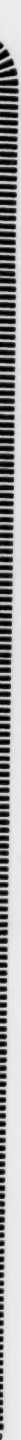
Write for booklet "K."

**SIMPLEX ELECTRIC HEATING CO.**

**Cambridge, Mass.**

Monadnock Block, Chicago  
612 Howard St., San Francisco

In writing to advertisers, mention "Selling Electricity"





# THE CENTRAL STATION DEVELOPMENT COMPANY

ARE EXPERTS  
IN THE APPLICATION OF  
MODERN COMMERCIALISM  
TO  
CENTRAL STATION CONDITIONS



**"New Business" Departments Created and Maintained**

**Co-operation Without Competition**

**Expert Investigation of  
Central Station Revenue Conditions**

*Prospectus sent on application*

**Address, Cleveland, Ohio, U.S.A.**

In writing to advertisers, mention "Selling Electricity"

# FEDERAL ELECTRIC COMPANY

## BARGAIN LIST

for landing that customer who thinks he cannot afford

### A Federal Sign

The following is a partial list of Federal signs which we have on hand, made up and ready to deliver:

**CAFE**

**GUNTHER'S**

**CANDIES**

**DRUGS**

**ROOMS ONLY**

**POOL & BILLIARDS**

**BUY**

**CIGARS**

**BOOKS**

**THEATRE**

**DENTIST**

**G. A. R.**

**TRACTION CO.  
LIGHT**

Some of these are new signs which have been made up for exhibits, and some we have as the result of a customer buying a larger

### Federal Sign

Blue prints accurately describing the condition of these signs and several others will be sent on request. Only one of each kind, so hurry up.

### Federal Electric Company

Lake and Desplaines Sts.

Chicago, Illinois